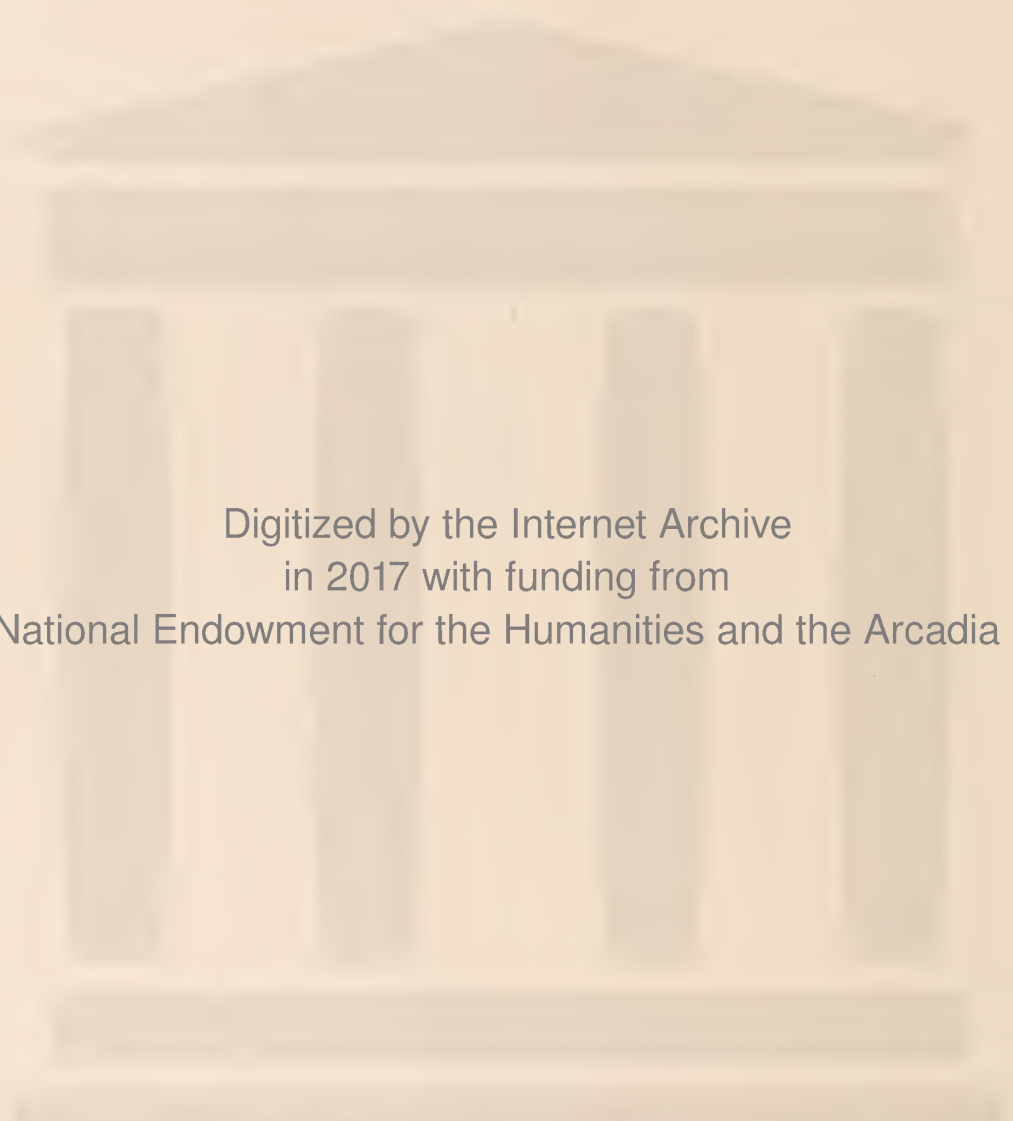


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VOLUME XXI { Whole No. 340
No. 1 }

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In This Number

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Professor of Medicine, Yale University.

The Use and Abuse of Insulin. By Dr. Paul H. Lavietes.
Assistant Professor of Medicine, Yale University.

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Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60*

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b. 1934. The Vitamin B Requirement of Man, G. R. Cowgill, The Yale University Press, New Haven.

2. 1937. J. Am. Diet. Assn. 13, 195.

3. 1936. J. Nutrition 11, 383.
1934. Ibid. 8, 449.
1932. Ibid. 5, 307.
1932. Ind. Eng. Chem. 24, 457

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A bambino from the Foundling Hospital, Florence, Italy,—A. della Robbia

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Hence, when he first begins to sit he must be propped by swathings of bandages. . . .” Hundreds of years later swaddling was still prevalent in Italy, as attested by the sculptures of the della Robbias and their contemporaries. For in-

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INDIVIDUALIZED TREATMENT OF DIABETES

JOHN P. PETERS, M.D.
PROFESSOR OF MEDICINE
YALE UNIVERSITY

In the last few years there has been a complete revolution in our attitude towards diabetes and the metabolic problems connected with this condition. Although the relation of human diabetes to the pancreas hung always by a tenuous thread of circumstantial evidence, the only reproducible condition with which it could be connected was that brought about by destruction or removal of the pancreas. The adherents of the pancreatic theory of diabetes took new cheer when insulin was discovered. Always, however, there was a sceptical minority that refused to be convinced. Negative pathology and certain obvious distinctions between experimental diabetes in the dog and clinical diabetes in the human seemed to them more than trivial matters. The advent of insulin did not shake their scepticism because it soon became evident that insulin acted not only on the hyperglycemia produced by removal of the pancreas, but on hyperglycemia of any kind, whether it arose from administration of excessive amounts of glucose, injections of adrenaline or any other cause. It has now been demonstrated that hyperglycemia, glycosuria and other phenomena of diabetes can be induced in animals by injections of extracts of the pituitary gland and that the effect of the pituitary does not demand the intermediation of the pancreas. The role of the pituitary and other endocrine glands in carbohydrate metabolism will be described by Dr. Long. I mention it only as the most convincing reason for discarding unitarian theories of the origin of diabetes and approaching the subject with an open mind. Such an attitude, however, carries with it the implication that diabetes is no longer a disease entity. Among the cases we label diabetes may be included a variety of diseases. All that we can recognize is a common functional disorder, the inability to utilize carbohydrate in the normal manner—or perhaps it would be safer still to say, to

the normal extent, drawing only a quantitative distinction.

If this is the proper view to take of diabetes, and I contend that it is the logical modern view, our responsibility to the diabetic and the road to advances in therapy take on an entirely new aspect. Statistical treatment of data becomes a relatively unimportant—I wish I could say an equally harmless—parlor game. The problem before us is one of differentiation; it is time to examine the trees and to stop getting lost in the woods. Evidence that light is being thrown on the subject by such careful scrutiny can be found in the studies of Himsworth and others on the various types of reaction to insulin. Furthermore, if we recognize diabetes only as a functional disorder, it behooves us to lay aside our clinical rules of thumb and to adopt more physiological lines of reasoning. It is our duty to consider each patient as an individual experiment set before us by nature for examination and analysis.

I can not resist the temptation to pause for a moment to point an example of statistical fallacy. The proper proportions of carbohydrate and fat in the diets of diabetics was a subject of controversy long before insulin was discovered. Allen, Joslin and others proclaimed the poisonous nature of high fat diets. The only alternative at the time, for most diabetics was starvation. Some, among them Woodyatt and Newburgh, had the poor taste to suggest that death by starvation was no better, and possibly more uncomfortable, than being poisoned by fat. When they actually put their theory to the test they found that a certain number of diabetics escaped death by starvation and seemed to bear up well under the poisonous effects of high fat diets. For the others, the severe diabetics, there was no escape from death by any means. Now that insulin has made it possible to save these latter the same old controversy arises. Geyelin, Sansum and others proclaim the virtues of high, almost unlimited, carbohydrate diets; Newburgh and others

Read at Interne Alumni Clinic Day at the Memorial Hospital, Pawtucket, R. I., Wednesday, November 3, 1937.

publish quite as good statistics with high fat diets. Perhaps the clue to this paradox lies in some data published by another observer. In a comparison of two series of patients treated respectively with high carbohydrate and low carbohydrate diets he found that with high carbohydrate diets a larger proportion received insulin, but that the average dose of insulin per person was smaller. From such statistics it is utterly impossible to conclude that high carbohydrate diets are advantageous. Granted that, as the author claims, the two groups are comparable, 20 per cent of the patients who managed without insulin on low carbohydrate were forced to use insulin when carbohydrate was increased. Since these were presumably mild cases, it is not surprising that the average insulin dosage was lower in the high carbohydrate series. It is quite as impossible to use the evidence to prove the advantages of low carbohydrate. From such data nothing can be proved, yet they are cited in every journal in behalf of one regime or another.

In the same article the author presents figures comparing units of insulin required per day per gram of carbohydrate. Now this I protest is an entirely meaningless ratio unless every other variant of life is maintained constant. The manner in which insulin and carbohydrate are distributed throughout the twenty-four hours is of quite as much, probably more, importance than the amounts of these substances that are given.

Ivar Bang, at the beginning of this century, in his historic studies of the blood sugar and carbohydrate metabolism, found that starvation diminished tolerance for carbohydrate. This observation, now so incontrovertibly established, is strangely at variance with starvation cures which have had, at times, such wide support. After the administration of glucose to an animal or a human being who has been subjected to a preliminary period of starvation the blood sugar rises excessively and remains elevated for an unusually long time. Sugar may appear in the urine. Investigations of the respiratory metabolism of such subjects have shown that they burn little or none of the sugar that is given to them. That portion of the sugar which is not excreted in the urine is apparently used to replenish the glycogen stores of the liver. If, after a reasonable interval, further sugar is administered it will be utilized in the normal manner. There are all grades of this condition which Bang termed "starvation diabetes." The most familiar is seen

in the two dose tolerance test, which has recently been advocated for diagnostic purposes by Altshuler and others. If, 30 to 60 minutes after the administration of a dose of glucose—that is, when hyperglycemia has reached or passed its peak, a second dose of glucose is given, the blood sugar does not rise as far as it did after the first dose; in fact it may hardly rise at all, although the rate of absorption of glucose may have increased.

From analyses of experiments of this kind and others which time will not permit me to mention, it seems reasonably certain that the phenomenon of "starvation diabetes" is connected with depletion of the glycogen stores of the body. As soon as these become exhausted, apparently, the ability to burn carbohydrate diminishes or vanishes. It would, therefore, seem the part of wisdom to prevent wastage of liver glycogen in diabetes. Another cogent reason for conserving glycogen stores is the prevention of ketosis. Despite our long cherished conceptions we have suddenly and rather rudely been awakened to the fact that "fat does not burn in the flame of carbohydrate." Acetone and other ketone bodies accumulate in the blood and appear in the urine not when the organism fails to burn carbohydrate, but when the glycogen stores in the liver are depleted. Ketosis in the depancreatized dog can be diminished or abolished by administration of enough carbohydrate, although the animal is completely unable to burn any of the sugar which it receives. Need I point out that under these circumstances, since the dog can burn none of the extra sugar, glycosuria increases as ketonuria diminishes.

The problem of preventing glycogen wastage in the diabetic presents peculiar difficulties because his glycogen stores are in such a precarious position all the time. I do not mean by this that the essential defect of the diabetic lies in the inability to produce or retain glycogen. However, because of his inability to utilize sugar the liver pours out its glycogen as glucose into the blood in an apparently vain effort by the force of mass action to effect some carbohydrate combustion in spite of the metabolic defect. This process continues during starvation when there is no exogenous source of sugar to replenish the glycogen. The only practicable therapeutic procedures, reduction of carbohydrate intake and intermittent injections of insulin, necessary as they may be for the bodily economy as a whole, do not favor glycogen formation and storage. All of

you can understand quite clearly how restriction of diet will further glycogen destruction. It is implicit in the experiment I cited above in which the depancreatized dog built up glycogen stores and excreted less ketone bodies, when it was given large amounts of carbohydrate, even though the latter ultimately appeared quantitatively as glucose in the urine. It may not be as immediately obvious to all of you why insulin should further glycogen depletion; therefore I should like to spend a moment on the subject. The essential action of insulin seems to be to accelerate the oxidation of carbohydrate by the tissues. If an animal is given insulin without extra sugar the carbohydrate (chiefly glycogen) in the tissues is burned at an abnormal rate. To meet the demand for accelerated combustion the liver glycogen is broken down and poured into the blood as glucose. Even in a normal animal glycogen depletion can be pushed so far under the influence of insulin that the animal will in the subsequent period have definite ketonuria. In treating the diabetic intermittently with insulin we are always tending to drive him from one state of glycogen depletion into another—and that means from one state of carbohydrate intolerance to another. The severe diabetic wakes up in the morning with the glycogen depletion of starvation, heightened by his incapacity to burn glucose. Under these deplorable conditions he is peculiarly resistant to the effects of insulin and quite unable to burn the carbohydrate he receives for breakfast. To overcome this incapacity he requires an enormous dose of insulin, sometimes at a long interval before breakfast. This enormous dose is necessary to take care of the burst of hyperglycemia that accompanies breakfast; but its effects may last far longer, well through the morning and into the afternoon. Throughout all this time a limited amount of sugar is being burned at an accelerated rate. Even if no symptoms develop the blood sugar of some of these patients remains at hypoglycemic levels for the greater part of the day. By supper time, if the urine is collected in frequent fractional specimens, small amounts of acetone may be found. The introduction of lunch may have a negligible effect upon the blood sugar and seldom causes glycosuria. Despite all these evidences that sugar has been burned with great ease, when supper comes around the subject may be almost as resistant to insulin as he was in the morning. Again a large dose must be given to take care of the evening meal. Again, if this dose

is made large enough the blood sugar will fall excessively later in the evening, perhaps causing symptoms of shock. Even if these do not appear, combustion of carbohydrate must be so accelerated that glycogen depletion will ensue, the more so, because this time there is no life-saving lunch, but only a long fast. Is it surprising, then, that somewhere in the small hours of the morning the diabetes grows worse, blood sugar mounts, ketonuria appears, and breakfast finds the patient again in an aggravated state of carbohydrate intolerance and insulin resistance. This is a severe case of diabetes, but the difference between this case and the mild one seems in this respect to be one of degree rather than kind.

You may rightly question the assurance with which I ascribe these phenomena to carbohydrate starvation and glycogen depletion. I confess were time available I should like to qualify this assurance. Suffice it for the moment if I say that the precarious nature of the glycogen stores of the diabetic and the fact that he is peculiarly subject to, and the victim of, carbohydrate starvation and glycogen depletion are indisputable, as is the fact that the usual therapeutic measures must often aggravate these defects. If these functional disturbances do not contribute to carbohydrate intolerance we can only believe that the diabetic is provided with a means for circumventing the effects of starvation that the normal person does not possess, a most unlikely conjunction of providence. Undoubtedly other factors contribute to the characteristics which so baffle the clinician. The fact that the nature of these latter is obscure is no reason for neglecting established physiological truth.

How to circumvent these intermittent deglycogenating effects has now become one of the major objectives of diabetic therapy. It is in a sense to combat this that protamine insulin and a variety of similar products have been introduced. Their aim is to prolong and to moderate the action of insulin. Without decrying their value in any respect in the province in which they have proved so beneficent, I should like to point out that prolongation of the action of insulin is not the only desideratum. The diabetic I described above presented a peculiar anomaly. Ordinary old fashioned insulin in the normal person or the diabetic dog has an evanescent effect, producing a maximum hypoglycemia in the course of 30 to 60 minutes, which passes off after a relatively short interval. But, in this patient the

insulin had its maximum effect after three or four hours and the hypoglycemia continued for 9 or 10 hours. It is not possible, until some method is devised by which blood can be assayed for insulin, to say that the insulin which was administered remained in the blood throughout this period. One can only say that the combustion of carbohydrate which it initiated persisted for this length of time. In a similar manner the effects of a dose given at 5:30 P. M., before supper, may still be manifest in hypoglycemia at 2 or 4 A. M. the next morning. This difficulty has led many to the use of multiple doses of insulin, a solution of the problem which is, to say the least, inconvenient to the patient, and often unsatisfactory. It is our experience that by proper arrangement of diet and insulin only an exceptional patient should require more than two doses of insulin except when the diabetes has been aggravated by some complicating condition.

The mid-day dose is obviously the most superfluous. If the morning dose is sufficiently large to counteract the effects of the morning intolerance, the blood sugar is usually lowest in the latter part of the morning. It is our impression that extra carbohydrate can be given to advantage in the middle of the morning and will not necessitate any additional insulin. The noon-day meal, also, can often be increased with the same economy of insulin. If insulin is given before the mid-day meal the blood sugar may be so low before the evening meal that it is impossible at this time to give enough insulin to carry the patient over night. The time when a third dose is needed most in the severe cases is late at night or in the early hours of the morning. Some physicians order insulin at these times. To me it seems a cruel measure, to be practised only if every other expedient fails. I remember an anxious, haggard mother who lost 14 pounds in as many days because she tried to give her son insulin at 2 o'clock each morning. The introduction of fruit or some other form of carbohydrate before bed may offer a happier way of life. This evening meal has become with us more and more a matter of routine, especially with the more severe or unstable diabetics. Again, let me add that such feedings do not seem to demand extra insulin. In fact—but this must be said with some reserve—one gains the impression that in some persons they demand less insulin. Frequent meals, therefore, may be quite as effective as frequent doses of insulin. Need I say they provide a far more comfortable way of life.

Much of the benefit derived from these intermediate feedings undoubtedly comes from the fact that they are given at the times when hypoglycemic shock is most likely to occur and, therefore, permit more liberal doses of insulin before breakfast and the evening meal. There is physiological reason, however, for believing that their good effects derive to some extent also from the fact that they provide a more continuous supply of exogenous carbohydrates and thus prevent intermittent depletion of glycogen stores. That the distribution of carbohydrate is not a matter of indifference can be demonstrated in some patients who show glycosuria regularly immediately after breakfast or supper or both, but will not tolerate further insulin. If a part of the carbohydrate from the offending meal is given an hour or two later, the glycosuria may disappear without any change of insulin dosage.

Physiological support for these procedures are found in certain experiments made by Ellis. He found that by administration of frequent small doses of carbohydrate and insulin severe diabetics could be made to utilize enormous amounts of carbohydrate with very little insulin.

Other procedures which are useful in combating the effects of the overnight rise of blood sugar are: first, to diminish the length of the fasting period by giving the evening meal late; second, to give the morning insulin 45 or even 60 minutes, rather than 20 to 30 minutes, before breakfast.

One other variant which must be given careful consideration is exercise. In the normal subject physical activity accelerates the combustion of carbohydrates. It has a comparable effect upon the diabetic who has the capacity to burn carbohydrate and has carbohydrate available for combustion. It therefore heightens the effect of insulin. I often question the advisability of admitting diabetics, especially young diabetics, to the hospital for regulation of diet or insulin. Usually the inactivity of the hospital regime increases glycosuria greatly. The patient finally regulated for hospital life requires radical reduction of insulin when he resumes normal activities. The hospital may be a useful place for preliminary education of the diabetic and is ideal for treatment of complications or emergencies; but it is not the place for adjustment of a mode of life. Advantage may be taken of the effects of exercise. I do not mean that patients should be made to exercise merely to eliminate glycosuria; the additional caloric demands of exercise may well waste

more fuel than the small amount saved by the elimination of glycosuria. Food may, however, be distributed in accordance with the daily routine of physical activity. It is notorious that children who have subsisted without glycosuria on small doses of insulin during summer vacation need larger amounts as soon as they return to school in the fall. Part of this I should attribute to restriction of physical activity. What exercise they do have is chiefly in the afternoon. Many of them can happily eat without detriment and without extra insulin when they return from school. Unfortunately too many, instead of being given some food to satisfy a true physiological craving at this time, are treated like young criminals if they succumb to temptation. I am strongly of the opinion that in children, at least, infractions of diet should be considered as challenges, not sins; when diets are not emotionally satisfactory, they may be physiologically inadequate. Even if they are adequate in quantity, they may be ineptly distributed.

It follows from what I have said of exercise alone that diabetes is not a static thing. It may have its stable periods, but it is seldom stationary for long, and treatment must be flexible as the disease. I marvel at those who can classify patients as insulin-resistant and insulin-sensitive, as unstable or stable. To be sure there are extreme cases that may retain such characteristics indefinitely; but the great proportion are insulin-resistant at one moment, insulin-sensitive at the next; unstable now, stable tonight or tomorrow. These variations occur in the course of a single day or operate over weeks or months. And treatment must keep pace with them. Adequate explanations for some of the variations can be found in changes of the daily routine, emotional disturbances or intercurrent complications, infections or otherwise. Some remain inexplicable even after the most searching examination. During periods of adjustment or while patients are in the hospital it is our custom to have urines examined 4 times a day: before each meal and before going to bed. Each of these urines has its own significance in the regulation of diet and insulin. When a temporarily satisfactory regime has been arranged the patient is instructed to examine the urine at odd intervals with especial emphasis upon the specimens voided before lunch and in the evening. When glycosuria appears more frequent tests are made for a time and insulin is readjusted. After this tests are again made at longer intervals. Throughout we are endeavoring to give the diet which is most adapted

to the individual patient, and which imposes the least limitation upon him, with the smallest possible amount of insulin and the smallest possible amount of doses of insulin.

Repeatedly I am asked what I do about the blood sugar. My answer is that it is a matter of complete indifference to me whether the blood sugar is normal at one time of day or another. It was once customary to study blood sugars before breakfast. Those who believed most firmly in blood sugar soon learned that fasting blood sugar could not be brought to the normal level in severe diabetics without serious hypoglycemic shocks at night or after breakfast. Some clinics have, therefore, adopted the practice of determining blood sugars later in the morning. This is usually the lowest point of the daily blood sugar curve. Therefore the physician can derive the greatest satisfaction if he chooses to analyze the blood at this time. However, it may be normal or low in the middle of the morning and extremely high most of the day. By and large, if the urine is free from sugar, it may be assumed that the blood sugar falls to or below normal limits at intervals during the twenty-four hours. Determinations of blood sugar are much more valuable as means of solving problems in the regulation of the diabetic or to detect hypoglycemia. For these purposes the blood may be collected when it seems most advantageous for the individual case.

THE USE AND ABUSE OF INSULIN

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Dr. Peters has indicated that no rigid rules can be accepted for the treatment of diabetes. I shall certainly not attempt to foist upon you any rule-of-thumb plan for the use of insulin. Variations in the nature of the disease and of the individual conspire with the many extraneous factors which may influence the utilization of carbohydrate to make of each case a problem which may tax to the utmost the ingenuity and resourcefulness of the physician. There may be several equally good ways to solve the problem and there may be more than one way to arrive at the same solution. Certain basic principles may be propounded, however, on the basis of the best available knowledge not only of the metab-

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olism of carbohydrate but also of the physiology of man in its broadest sense and with consideration of his relation to society. If one grants that hyperglycemia *per se* carries no serious consequences, the problem of treatment of diabetes becomes one of supplying adequate nutrition without interfering any more than necessary with the individual's way of life. Any considerable glycosuria must of course be prevented because it interferes with nutrition and because it leads to dehydration and local irritative phenomena. Selection of an adequate diet requires more than routine consideration. It must be sufficient for the nutritional requirements of the patient with due regard to his usual expenditure of energy and need for growth, to the demands of any complicating disease and last but not least to the inclinations of the patient to the extent that the taking of food does not degenerate into a completely uninteresting duty. If the use of insulin becomes necessary to control glycosuria, care must be exercised to use as few doses and as small ones as will prevent glycosuria without producing hypoglycemia at any time of the day. The main burden of my address will be to show by examples from our cases some of the problems which arise in applying these principles in practice. If some of the points prove more obvious to you than they did to me, I hope that you will forgive me.

Needless to say insulin is abused if it is not controlled by frequent urinalysis. Our aim is to prevent glycosuria throughout the 24 hours of the day, yet, except in the mild cases requiring no insulin, analysis of the 24 hour urine specimen yields little useful information. One patient with diabetes of 25 years standing had taken 15 units of insulin before breakfast and supper each day for the past 10 years without any quantitative restriction of diet. Three weeks before we saw him in 1935 he called a physician to treat a traumatized toe. The physician, finding glycosuria, prescribed increasing doses of insulin on the basis of tests of the 24 hour specimens. On April 11, 1935, he gave 35 units before breakfast and before supper. At 5 A. M. the next day the physician was called because the patient was acting queerly, and finding him drowsy, the physician gave 30 units of insulin with 20 grams of carbohydrate. Since the patient was no better at 9 A. M. he received 20 units more. When he arrived in the hospital at 10:30 A. M. he was deeply comatose but was not dehydrated or overventilating. Since insulin shock was suspected, blood was drawn

for analysis and glucose was given intravenously without awaiting the results. The patient failed to rouse after 25 gms. of glucose was given but began to respond while a second ampule was being given. The blood sugar was found to be less than 10 mg. per cent and the carbon dioxide content of the serum was perfectly normal. It is apparent that in this patient the presence of glucose in the 24 hour specimen was not an adequate criterion for increasing the insulin dose. A much better estimate of the requirement could have been made by testing the urine several times during the day and increasing the morning or evening dose as indicated.

Similar difficulties arise when the level of the blood sugar at any time of the day becomes a criterion of insulin dosage. To cite one example, a patient who was being regulated on the basis of blood sugar tests done two mornings a week because she supposedly had a high renal threshold for glucose was having daily hypoglycemic reactions in mid-afternoon when taking 25 units before breakfast, 25 before lunch and 10 before supper. When insulin was omitted at noon and the supper dose increased to 15 units, glycosuria was entirely eliminated and hypoglycemic reactions were avoided. The well being of the patient was improved greatly by the change of regime.

Dr. Peters has already described a case in which the use of insulin was avoided merely by a redistribution of the diet. In cases requiring insulin a similar redistribution may result in an economy of insulin. In the severe cases, in which the overnight rise in blood sugar makes it difficult to avoid glycosuria after breakfast, it may prove a very useful expedient to reduce the breakfast sharply, thus diminishing the load at the time when tolerance for carbohydrate is at its lowest, and to give the remainder of the breakfast in the middle of the morning when carbohydrate metabolism has reached a high pitch. Thus both the glycosuria after breakfast and the hypoglycemic reactions later in the morning are avoided. Such a procedure will obviously have no effect on glycosuria before breakfast. In several of our cases we have been able to demonstrate that while the overnight specimen voided at 7 A. M. contains no sugar, a specimen voided just before breakfast at 8 A. M. shows complete reduction of Benedict's solution. In this case the simple expedient of giving the insulin injection at 7 or 7:15 A. M. may suffice. More often it is necessary to increase the night insulin dose to minimize the

overnight rise, which is responsible for the glycosuria. This is more likely to be successful if one, or occasionally even two, small extra feedings are given between supper and bedtime. The following case illustrates some of the difficulties arising on account of the overnight rise. A patient with severe diabetes of several years duration, taking 90 units of insulin an hour before breakfast and 50 units a half hour before supper showed profuse glycosuria before and after breakfast but was aglycosuric during the remainder of the day. It was impossible to increase the night dose further because there had been frequent shocks at 11:30 P. M. in spite of a 9 P. M. feeding. There were no recognized shocks earlier in the day. Determination of the blood sugar before supper showed it to be within normal limits. Giving 50 units at this time provoked hypoglycemia later in the evening without preventing the overnight rise, the morning blood sugar exceeding 300 mg. per cent. The shock and the overnight rise were both successfully combatted by omitting the supper insulin entirely and giving instead 30 units of insulin with 20 gms. of carbohydrate at 11:30 P. M. The same result was obtained later by reducing the morning dose to 40 units and giving 20 units before supper and 15 units before a 9 P. M. feeding.

Another patient brings out the point even more sharply. On 65 units before breakfast and 35 before supper the tests were clear at 9 P. M. and 7 A. M. but showed complete reduction at 11 A. M. and 4 P. M., and the patient shocked just after supper. At first glance it seemed that the morning dose was insufficient to clear the after breakfast and after lunch specimens and that the night dose was too large. The fact that the shock appeared immediately after supper, however, led to the suspicion that the morning dose was responsible to a large extent for the evening hypoglycemia. This was corroborated and after breakfast became absent or slight and 331 mg. before breakfast, 96 before lunch and 49 before the supper insulin was given. With reduction of the morning dose to 40 units and the administration of 10 units before supper and 10 more before the 9 p. m. feeding, glycosuria before and after breakfast became absent or slight and hypoglycemic reactions were avoided.

That carbohydrate tolerance is not a stationary thing is often not sufficiently appreciated. Insulin requirements commonly rise during infections or emotional upsets and at times with no apparent

explanation. Exercise, in some patients, has a favorable influence on tolerance. Frequently patients who remain aglycosuric without difficulty during the week complain that they always show sugar on Sunday though they adhere strictly to their diets. One of our young diabetics with a scientific turn of mind found that he could prevent this merely by taking a walk after breakfast on Sunday. In his case at least, decreased activity was the cause of the Sunday glycosuria. Neglect of the fact that exercise may increase tolerance for carbohydrate may have serious consequences. When one of our patients who was well regulated in the hospital was allowed out of bed for the first day she felt a little nervous just before lunch and paced the floor in an attempt to walk the jitters off. The exercise unfortunately had the reverse effect, transforming a mild hypoglycemic reaction into a severe one with convulsions. Another patient whose tolerance for carbohydrate has always been extremely sensitive on the one hand to emotional stress and on the other to exercise and who found it impossible by any regime to keep consistently aglycosuric had the occasion to be regulated in another hospital following a gastrointestinal upset incurred while the patient was away on her vacation. The glycosuria was nicely controlled on something over twice her usual dose while her only exercise consisted in taking a few steps about the ward. On the first day removed from the hospital, after a short walk, she had such a severe reaction that she took two oranges from a nearby fruit stand and ate them skin and all to save the time necessary to peel them. In some patients in whom exercise is known to improve the tolerance considerably, foresight may prevent unpleasant shocks. Thus a dancing instructor under our care avoided trouble by reducing her insulin dose on the nights when she worked, often taking ice cream as well on those occasions without provoking glycosuria.

When protamine insulin, with its prolonged gentle action, was first announced, it was hailed far and wide as the perfect answer to the problem of controlling the wide fluctuations of blood sugar during the day, and the overnight rise. The need for multiple doses of insulin was to be a thing of the past. After further experience, however, it became clear that protamine insulin was not a panacea; that its use was attended by difficulties different from, but often as great as, those with regular insulin. The patient who was difficult to

treat with regular insulin usually remains difficult to treat with protamine. Attempts to treat severe diabetes with a single daily injection of protamine insulin alone have been successful in only a small proportion of the cases. Protamine given at almost any time of the day in sufficient dose is almost uniformly successful in rendering the overnight, or at least the before breakfast, specimens sugar-free; it rarely, however, acts with sufficient force to prevent glycosuria after meals. For this a supplementary injection of regular insulin must usually be given before breakfast. This necessitates two injections and detracts somewhat from the appeal of the new discovery. It, however, allows all the insulin to be given in the morning, thus allowing the patient more freedom at supper time. There is in addition some indication that the total insulin requirement is smaller when protamine is employed. Insulin reactions have not been eliminated by the introduction of protamine; the time at which they occur most frequently has merely been changed to the hours before breakfast, and there is still the same susceptibility to shocks later in the day when protamine must be supplemented by regular insulin. Furthermore the shock after the new insulin may take on a more serious aspect. Patients who are warned of impending shock from regular insulin in sufficient time to avert serious reactions find that the first evidences of shock after protamine insulin are the potentially more serious ones of mental confusion, convulsions or loss of consciousness. Dr. Allen has reported a case of a taxi driver in whom this became an extremely important matter. His diabetes had always been difficult to control with regular insulin and there had been frequent mild shocks which were readily aborted with sugar thus allowing him to continue his occupation. When he found that he was unable to recognize the reactions after protamine in time to prevent them, he quickly abandoned protamine.

We have gradually adopted the practice of giving protamine and regular insulin in separate injections before breakfast, using of protamine the smallest dose which will clear the before breakfast specimen and of the regular the smallest dose which will prevent glycosuria after meals. This is much the same plan which is used by the majority of clinicians both in this country and abroad. We have selected for treatment with protamine insulin only those patients who after a long period of treatment with the old insulin still require more than one

injection a day. This serves to give us information by which we hope to be able eventually to evaluate the therapy with some accuracy. To sum up our results to date in a very unprecise way, I may say that while we have very few cases in which an injection of protamine insulin alone has proved a satisfactory substitute for two of regular insulin, there are very few in which satisfactory regulation has not been gained with a combination of protamine and regular, usually with a smaller total dose than was required previously. This is in accord with the experience of others.

Rather than attempting to review our cases in any comprehensive manner, I will content myself with presenting a few experiences which proved to supply information useful in the treatment of cases subsequently. I have already indicated that hypoglycemic reactions just before breakfast, or even earlier, occur frequently in patients taking the new insulin. One of our early experiences with such shocks is of interest in several respects. A student previously well regulated for a year on a hundred units of regular insulin given in two injections was changed to 70 units of protamine, all given before breakfast. When we first saw him he was aglycosuric most of the day, but had occasional mild shocks as soon as he set out to prepare his insulin in the morning. Extra carbohydrate at bedtime failed to prevent the reactions; reduction of the dose by even 2 units resulted in profuse glycosuria through the day. It seemed apparent that even a little activity before breakfast was sufficient to make manifest the symptoms of hypoglycemia. By the simple expedient of having the patient take his breakfast fruit immediately on arising, the reactions have been entirely eliminated without provoking glycosuria. I have found it a useful measure to take in all patients using protamine insulin. This serves the double purpose of guarding against hypoglycemic reactions and stimulating carbohydrate metabolism. This case brings out another point. In order to prevent glycosuria after meals with protamine insulin alone it was necessary to give a dose which probably produced prolonged hypoglycemia during the night, a process which must be looked at with misgivings as far as its influence on carbohydrate metabolism is concerned. It would seem advantageous to attempt to avoid this hypoglycemic phase by reducing the dose of protamine insulin and supplementing it with regular insulin to control glycosuria after meals. Freedom

from glycosuria was attained in this case with 70 units of protamine where formerly 100 units of regular was necessary. It may be that with a combination of the two types of insulin an even greater economy can be effected.

Another patient who spent a year and a half in the hospital with hemiplegia and aphasia secondary to a cerebral vascular accident gave us the opportunity to try the two types of insulin alternately in order to derive information concerning the economy effected by protamine. Each time the insulin requirement was higher with regular insulin than with protamine, the average values being 60 to 70 units with the former and only 40 to 50 units with the latter. Economy of this degree has been noted in many reports from the literature.

In our earlier trials with protamine in patients with troublesome overnight rises we gave regular insulin in the morning and protamine at night as recommended by the Danish investigators. The results were disappointing. Later we had a case which throws some light on the question of the optimum time for administration of protamine insulin. On a single injection of 40 units of protamine alone given before breakfast, there was profuse glycosuria in all but the before breakfast specimen which was clear, and there was a shock during the night. When the insulin was given before lunch, tests were clear only before and after breakfast, and again there were shocks at 2 A. M. and 4 A. M.; when the same dose was given before supper specimens were again clear only before and after breakfast; when it was given before a late evening feeding the urine was free from sugar only before breakfast. The time of administration of protamine insulin was apparently a matter of complete indifference in this patient. Subsequently with 30 units of protamine and 6 of regular, both given before breakfast, she remained sugar-free except in the after supper specimen; there were no shocks providing a small feeding was taken between breakfast and lunch. The effectiveness of this small dose of regular insulin in this case in preventing glycosuria after breakfast and lunch, and even in promoting hypoglycemia before lunch is an indication that the protamine has left the morning tolerance (or at least the sensitivity to insulin) good. It is possible that with a smaller dose of protamine, allowing a somewhat higher blood sugar before breakfast, a dose of regular insulin large enough to control all the glycosuria after meals could be em-

ployed without precipitating hypoglycemia during the day. In most cases where we have tried to lower the protamine and increase the regular to minimize the tendency to hypoglycemia during the night, however, control of the glycosuria has not been as satisfactory as when small doses of regular and relatively large ones of protamine are used.

It might be well to mention some more or less complete failures with protamine. A boy with a remarkably labile tolerance for carbohydrate was finally rather well regulated with regular insulin, using 40 units an hour before breakfast and 30 a half hour before supper; that is, with this dose he had no trouble with hypoglycemic reactions and the urine was free from sugar more often than not; it was impossible to keep him aglycosuric at all times. When 60 to 70 units of protamine were given before breakfast he had profuse constant glycosuria until the fifth day when there was a very severe insulin reaction at 7 A. M. at the same time as the overnight specimen first became sugar-free. Regular insulin was again employed at this point. Several months later, while the patient was on the pediatric service on a diet containing much more carbohydrate the same sequence of events transpired, the shock at 7 A. M. being even more severe. Then, on a regime using 50 units of regular insulin before breakfast and 35 units of protamine before supper, there was constant glycosuria with a shock before lunch, and the situation was not altered by giving the protamine in the morning, at the same time as the regular. Finally the pediatricians gave the boy 40 units of each type of insulin before breakfast, on which there were no shocks and no entirely clear urine tests in the last two months of hospitalization. His weight, however, continued to progress satisfactorily upwards, a fact which was certainly in large part due to the treatment of an associated steatorrhea. One can hardly claim that the protamine succeeded in doing anything in this case which could not be done with regular. We have several other patients with instability of the emotions and of the vasomotor mechanisms as well as of the carbohydrate metabolism in whom protamine has not proved the complete answer. For example one middle aged lady with mild hyperthyroidism who is extremely sensitive to insulin and whose requirement is further extremely sensitive to exercise and emotional upsets constantly vacillated between glycosuria and hypoglycemia while taking 15 units of regular insulin before breakfast and

10 before supper. When protamine insulin and various combinations of protamine and regular were tried the situation remained entirely unchanged. The patient felt perfectly well and maintained her weight while remaining glycosuric on protamine it is true, but this is equally true of her course on regular insulin.

Occasionally, when it seems impossible to control glycosuria by a single dose of protamine insulin alone, this may become possible merely by a redistribution of the diet, a fact which was first pointed out to me forcefully by one of our patients. For over a year, this man, by taking 35 units of regular insulin before breakfast and 25 units before supper and adhering strictly to a diet containing 185 grams of carbohydrate, had remained aglycosuric except for occasional after breakfast tests and had had no shocks. The carbohydrate of the diet was distributed into three regular meals of 35, 65 and 60 grams respectively and two extra feedings of 10 grams at 10 A. M. and 15 grams at bedtime. When he was given 60 units of protamine before breakfast, there was at first profuse glycosuria, unattended, however, by weight loss, polyuria or acetonuria. As the tests began to clear the dose was gradually decreased to 50 units. At no time on this regime was the urine clear for more than 24 hours at a time. Glycosuria was the rule rather than the exception; yet there were two severe hypoglycemic reactions, the first producing convulsive twitchings at 5 A. M. followed by mental clouding which was not fully dissipated for 3 hours, although 40 grams of carbohydrate was given. On the second occasion he was in a confused state on awakening and proceeded to test his urine incorrectly. When his wife corrected him, he slapped her for the first time in a long married life and so surprised her that she dropped the insulin syringe that she was holding. With the administration of some orange juice Mr. Hyde soon became Dr. Jekyll. At this time we suggested that he try combining a smaller dose of protamine with a small supplement of regular insulin but he had different ideas. By reducing the intake of carbohydrate in the early part of the day and adding to the bedtime feeding he was able to keep constantly sugar-free with the exception of a rare 1+ test, usually before lunch, and to avoid hypoglycemic reactions entirely. He took his breakfast fruit immediately on arising as an added precaution against shocks at that time. The reduction of diet in the early part of the day was merely at the

expense of the 10 A. M. feeding of 10 gms. of carbohydrate which had been necessary to avoid hypoglycemic reactions after regular insulin and 5 grams of carbohydrate removed from lunch. Not content with this fine demonstration that redistribution of the diet could effect miraculous results, he proceeded to control the experiment by again adding 10 grams of carbohydrate at 10 A. M. or at lunch. The result was profuse glycosuria through the afternoon and evening.

I was able to utilize the lesson taught me by this patient to good effect in the following case. A young girl came to see me because a single dose of 30 units of protamine given before breakfast allowed profuse glycosuria after lunch and after supper while producing severe shocks at 3 to 6 A. M. almost every day. Repeated blood sugars taken at noon by her physician showed only 150 to 180 mg. per cent, arterial blood being used. The diet allowed 22 grams of carbohydrate at 10 A. M., 4 P. M. and 9 P. M. in addition to the regular meals. The patient complained that the feedings came so close together that she was not always successful in taking the full prescribed diet, and evinced a desire to have less food early in the day with more liberal allowances at supper and bedtime. This seemed to be an ideal situation to test the reduplicability of the last patient's experience. She was advised to take her fruit immediately upon arising, to omit the 10 A. M. and 4 P. M. feedings entirely, to subtract 10 grams of carbohydrate from lunch and to add 15 grams to supper and 25 grams to the night extra feeding. The result was complete freedom from glycosuria and insulin shocks with the same insulin and total intake of carbohydrate as she had used to such poor advantage earlier. At the same time the new arrangement of the diet was more palatable to the patient.

In summary, it may be said that any prescribed insulin dose can only be a first approximation. Not only the size of the doses and time of administration but also the distribution of the diet must be varied to meet the special problem presented by each patient. This is no less true with protamine than with regular insulin. Protamine insulin is certainly a valuable adjunct to therapy but its use presents certain new difficulties, examples of which have been presented. Regardless of the time of administration of protamine insulin, the maximum tendency to hypoglycemia is during the night or before breakfast.

THE RHODE ISLAND MEDICAL JOURNAL

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RHODE ISLAND'S REACTION

At the recent special meeting of the Rhode Island Medical Society, which was called to consider certain principles and proposals which had been advanced for the consideration of the profession, certain things were accomplished. Although the report of the house of delegates "disapproving these principles and proposals in their present form" was passed without a dissenting vote, the discussion disclosed the fact that in the minds of those who sponsored these suggestions they represented by no means a move favoring governmental control of medical practice or a first step towards socialized or state medicine but rather on the contrary an earnest and carefully considered effort to forestall precipitate and harmful governmental action. It is the belief of this JOURNAL that in disapproving these suggestions the Society has acted correctly; first, because it is evident that they are easily capable of misinterpretation by the average reader, and second, that they have been so grossly misinterpreted that an appearance of a marked division of opinion in the ranks of the profession has been created. The unfortunate publicity that has occurred is to be deplored. At the time when these suggestions were circulated and signed the threat of governmental interference seemed much more ominous than it does at present. The discussion of these matters must, however, have been of benefit in stimulating an active interest in the status of medical practice and has doubtless created a condition of awareness on the part of the profession of this state that will bring about prompt and critical judgment on issues of this sort as they arise and become urgent. One lesson seems clear, that further discussion of such issues and an attempt at agreement on a positive

program concerning important phases of national health and medical practice should engage the attention of this and other constituent societies of the American Medical Association in the immediate future, an agreement which must be reached by clear thinking without the clouds of prejudice and emotion which have been aroused by these early suggestions.

SULFANILAMIDE

The medical profession in this State has watched the progress of the new drug sulfanilamide with a great deal of interest. With the background of past experience, we have seen drugs put forward as panaceas, have heard them heralded in the literature of drug houses as well as in that of medical journals, and have watched them sink into the oblivion of disrepute. So when sulfanilamide appeared, it is no wonder that we were skeptical. However, this time the story appeared to be different. The medical literature showed better controlled series of cases; the results were in some instances dramatic; and, finally, we ourselves have tried it out on cases with equally dramatic effect. The drug, therefore, had been well accepted as specific for the beta-hemolytic streptococcus, when new uses for it appeared. By last summer, it was known to be of benefit against not only streptococcal infections, but also against those caused by the meningococcus and gonococcus. But with the mention of the last organism, the conservative physician was instantly able to see the handwriting on the wall; indiscriminate use by the physician, let alone the drug store "doctor," has followed. And now the whirlwind is arriving.

In the August 14th number of the Journal of the American Medical Association is a little note reporting fatalities from the use of sulfanilamide. Among these are two cases of agranulocytosis. In the September 25th number of the same journal are eleven contributions on sulfanilamide, of which nine report the occurrence of toxic manifestations.

Among the conditions produced are hemolytic anemia, optic neuritis, and various skin rashes. Peculiarly enough the drug seems to be a photosensitizing agent of the skin, a point that should not be forgotten. Within the past few weeks the newspapers of the country have been full of cases of poisoning from an elixir of sulfanilamide. While the drug itself has been absolved of blame, the situa-

tion should bring home the lesson that, in combination with other drugs, unpleasant results may ensue.

There are two other journals that report on this drug. In the August number of the *Journal of Pediatrics* is a symposium on therapy; and lastly, in the October issue of the *Annals of Internal Medicine* is a brilliant article on the clinical use of sulfanilamide.

The serious results of indiscriminate use of this drug compel every physician to endeavor to learn all he can about it before he attempts to use it in his practice. Sulfanilamide is not going to limbo. It has a place in the pharmacopœia and will fill that place well. If patients are going to be cured through its use, and not killed, we must know all there is to know concerning it.

RHODE ISLAND MEDICAL SOCIETY

Special Meeting of the House of Delegates

A special meeting of the House of Delegates of the Rhode Island Medical Society was held at the Medical Library on Wednesday, November 24, 1937, and was called to order by the President, Dr. Walter C. Rocheleau, at 4 P. M. The Secretary, stating that the meeting was called particularly to consider the matter of socialized medicine, reported on the Conference of Secretaries and Editors held in Chicago on November 19 and 20, with special reference to the Principles and Proposals of the Committee of Physicians, which were not approved by the House of Delegates of the American Medical Association but were referred to the Board of Trustees.

Dr. Jesse E. Mowry made the motion, seconded by Dr. Champlin, that this body support the stand that the House of Delegates of the American Medical Association had taken on socialized medicine. Dr. Mowry recognized the fact that the House of Delegates of the American Medical Association objects to socialized medicine and while he himself hates socialized medicine he is ready to listen to the other side of the question, realizing that we are living in a new era, that socialized medicine in a way is already here, and that the medical profession should have something to say about what form it will take. The subject was discussed by Doctors Skelton, Mowry, Hammond, Burgess, Wm. S.

Streker, Donley, Wells, Charles L. Farrell, Abbate, Champlin, MacLeod, Baldrige, Bray, P. P. Chase, Collom, Jesse P. Eddy and Earl Kelly.

Dr. Burgess felt that if these principles and proposals were studied and explained the impression would be different. He stated that there are other proposals which are superior and quoted an article from the last number of the *New England Journal of Medicine*.

Dr. Hammond moved as an amendment to the motion before the House that this body request the Board of Trustees of the American Medical Association to formulate a plan to be submitted to the House of Delegates. Dr. Wm. S. Streker read an article from a recent issue of *The Journal of the American Medical Association* under Current Comments, on proposals, principles and petitions. Dr. Charles L. Farrell read a petition from the Caduceus Club of Pawtucket, questioning the stand of the Committee of Physicians on socialized medicine.

Dr. Jesse P. Eddy moved as an amendment to the motion, that each District Society call a meeting and let each member of each District Society submit his opinion on the question in writing. Dr. Champlin stated that the Washington County Medical Society is against socialized medicine. Dr. MacLeod stated that the Newport Medical Society is definitely opposed to socialized medicine. Dr. Abbate stated that Kent Medical Society objects to socialized medicine. Speaking for the Standing Committee of the Providence Medical Association, Dr. Peter P. Chase was under the impression that the meeting was to be a general one and that each member was to be permitted to present his views on the subject.

Dr. Abbate moved as an amendment to the motion, that a general meeting of the Rhode Island Medical Society be held, at which this matter of state medicine should be discussed. Dr. Kelly stated that he thought a vote should be taken at this meeting and felt that the Society would not get any further by having a general meeting.

The amendments were ruled to be out of order. Dr. Mowry's original motion was then put to a vote and was carried.

Dr. Miller made the motion that the House of Delegates does not approve the principles and Proposals of the Committee of Physicians in the form presented, and being duly seconded, the motion was carried.

Dr. Abbate made a motion that the President be empowered to call an open meeting for Thursday, December 2, the same to be held at 9 A. M., and being duly seconded, it was so voted, the hour being the choice of the majority of the members present.

The meeting was adjourned at 6 P. M.

Respectfully submitted,

GUY W. WELLS, M.D., *Secretary*

Special Meeting of December 2, 1937

A special meeting of the Rhode Island Medical Society was held at the Medical Library on Thursday, December 2, 1937, and was called to order by the President, Dr. Walter C. Rocheleau, at 9:00 P. M. The minutes of the special meeting of the House of Delegates, held on November 24, were read by the Secretary and were approved as read. The President stated the purpose of calling this meeting at the request of the House of Delegates: to consider the proposals of the Committee of Physicians in the provision of medical care, and first called upon Dr. Hammond.

Dr. Hammond submitted for action the Resolution proposed by Dr. Miller and approved by the House of Delegates at the meeting on November 24, namely,—RESOLVED “that the House of Delegates does *not* approve the Principles and Proposals of the Committee of Physicians in the form presented.” Dr. Burgess moved that the Rhode Island Medical Society approve the report of the House of Delegates and adopt the Resolution expressed therein. The motion was seconded by Dr. Champlin.

At the request of the President, Dr. Hammond presented the following explanation of the Principles and Proposals in question:

“The President has asked me to explain the origin of the Committee of Physicians, the Principles and Proposals which they have adopted, and the present status of the controversy.

“You are all doubtless familiar with the studies which have been carried on by the American Foundation, which resulted in the publication in April 1937 of “American Medicine. Expert Testimony out of Court.” Following the publication of this two volume work, a Committee of Physicians was organized to study the findings of this survey. These physicians state that they are in agreement with the findings brought out by this study and suggest certain Principles and Proposals to improve medical care.

“They believe that close co-operation between physicians, economists and sociologists is essential. They feel that the medical profession should initiate any proposed changes, because physicians are the experts upon whom communities must depend. They state that certain alterations in our present system of preventing illness and providing medical care may become necessary; indeed, certain changes have already occurred. Changes in economic and social conditions are taking place and medicine must be mobile and not static, if medical men are to act as expert advisers of those who convert public opinion into action. The conviction of this group is general that action should be taken only upon the basis of demonstrated need and as experience accumulates to indicate that such action is likely to attain its end, in a nation comprising forty-eight states, in which climatic, economic and social conditions vary greatly.”

Dr. Hammond then read the Principles and Proposals of the Committee of Physicians and continued:—“The subscribers to the above Principles and Proposals hold the view that health insurance alone does not offer a satisfactory solution on the basis of the Principles and Proposals enunciated above. These Principles and Proposals were sent to a large number of outstanding members of the medical profession in this country, representing various specialties, to medical teachers, heads of hospital services, hospital superintendents, and to those in administrative positions. Many signatures were obtained and many other physicians refused to support these Principles and Proposals. In the meantime the Proposals, slightly modified, had been presented to the House of Delegates of the American Medical Association at the recent Atlantic City session, by the House of Delegates of the Medical Society of the State of New York. They were carried before a reference committee and, in several sessions of that committee, a considerable number of physicians presented arguments for and against their adoption. The House of Delegates, however, after thorough consideration of the report of the reference committee, and with full cognizance of the method of development of these Principles and Proposals and of the considerations which were involved in their passage by the House of Delegates of the Medical Society of the State of New York, did not accept them. The House of Delegates did, however, point out the willingness of the medical profession to do its utmost today as in the past to

provide adequate medical service for all those unable to pay either in whole or in part.

"Why, then, any necessity for the circulation of petitions presenting proposals for fundamental changes in the nature of development, distribution and payment of medical services? Is there a well designed plan to impress the executive and legislative branches of our government with the view that the American medical profession is disorganized, distrustful of its leaders, undemocratic in its action and opposed to the best interests of the people? Who may profit from such evidence of disorganization? Is there any evidence that the self-appointed Committee of Physicians and the 430 physicians who have affixed their names to these Principles and Proposals are any better able to represent the opinion of the American medical profession than the democratically chosen House of Delegates of the American Medical Association—one of the most truly representative bodies existing in any type of organized activity in this country today?

"The House of Delegates has given its mandate to the Board of Trustees, to the officers and to the employees of the Association. That mandate opposes the Principles and Proposals emanating from the Committee of Physicians, and equally the new proposals. If the House of Delegates sees fit to depart from the principles now established, it will be the duty of the Board of Trustees, the officers and the employees of the American Medical Association to promote such new principles as the House of Delegates may establish. Until, however, the regularly chosen representatives of the 106,000 physicians who constitute the membership of the American Medical Association determine, after due consideration, that some fundamental change or revolution in the nature of development, distribution and payment for medical service in the United States is necessary, physicians will do well to abide by the principles which the House of Delegates has established. They will at the same time deprecate any attempts inclined to lead executive and legislative branches of our government, as well as the people of the United States, into the belief that the American medical profession is disorganized.

"In the meantime other principles and proposals have been advanced by other groups, editorial writers, and medical organizations, until the whole subject has become confused from too many cooks trying to spoil the broth. It would seem wise to leave

the whole subject in the hands of the duly elected representatives of the medical profession, the House of Delegates, Trustees and officers of the American Medical Association, who have expressed their willingness to co-operate in every way with any governmental or other qualified agency in studying the need of all or any group of the people for medical service and to determine to what extent any considerable proportion of our public are actually suffering from lack of medical care."

The Secretary then made the following remarks:

"Before discussing the Principles and Proposals of the Committee of Physicians it may be well to clarify the issues by removing from consideration the term, socialized medicine. Whether such a plan would lead to socialization or to a government dictatorship is of little matter for they are equally repugnant and in the end injurious to medical progress. Many of the signers of the petition have stated they are not in favor of any plan that would lead to socialization.

The question arises as to the necessity or even the desirability of these proposals. Will they more effectively prevent the passage of legislation inimical to medical progress? Will they increase medical progress?

"Yearly bills have been introduced in Congress regulating the practice of medicine. During depression, particularly between 1932 and 1934, two rich and powerful Foundations gave active support to plans organized medicine considered detrimental to public health. Congress was frantically examining any plan that might alleviate the distressed. Did not your representative, the American Medical Association, meet the issue successfully? Did these bills become laws? Where are the Foundations today? During the darkest days the bills were defeated. The Foundations are through. The American Medical Association, at your direction, is still functioning. Medicine today is in less danger of intervention by forces outside the profession than at any time since 1929. How then, can the Proposals as printed be expected to protect the practice of medicine more successfully?

"The second question 'Will the Principles and Proposals increase medical progress, that is, improve medical care?' Under our present system American medicine has progressed more rapidly than in any continental country. In most European states medicine is fairly strictly regulated. Whether governmental control in medicine as well as other fields is due to the constant threat of war is beside

the question. The fact remains that government control exists to a great degree and that medical progress in European countries lags far behind that of the United States. However, one may say that changes within the borders of our country make changes in our medical policy desirable. If such a contention were true, we already have an excellent method of modifying our policy in accordance with the need. Members of District Societies have articulate representation in the State Societies. State Societies through their duly elected delegates control the American Medical Association. The American Medical Association is bound to carry out the will of its component Societies. It does not and cannot impose the will of the parent society on you. This is truly a democratic form of government. Would not the majority of 106,000 members sense the necessity and have they not ample means of changing the policy of the American Medical Association at its yearly meeting? How could American medicine have reached its present state of development, one which has surpassed every country that has governmental control, if our policy has been static? Contrasted to the present system, we are offered for consideration a proposal for governmental subsidy. Acceptance of governmental subsidy will involve governmental regulation. That seems to me inevitable. During the brief years of depression we have seen plenty of instances of Federal Regulation where Government money was concerned. A few of these were enumerated the other evening in the House of Delegates. Examples in foreign countries should make us apprehensive of domination by any outside force if medical progress is to continue.

"I have asked only two questions in the present discussion.

"Will acceptance of the Principles and Proposals tend more effectively to prevent the passage of legislation inimical to Medical Progress?

"Will the Proposals increase medical progress?

"I believe the action of the House of Delegates in this matter on November 24 should be supported for the reason cited, that a need for a change in medical policy does not exist. When such a need is demonstrated we have amply tested methods to make such changes as are advisable."

Dr. Farrell then spoke as follows:

"Some years ago 'The Committee on the Costs of Medical Care' made an attempt to influence medical and lay opinion in support of plans for radical

reorganization of medical care. The medical profession rejected the majority report, but accepted a minority report. The profession has expressed itself as not insisting on maintaining 'The Status Quo' just because it is the 'Status Quo' but is always willing to improve and advance medical care under proper safeguards. However, the attempts of sociologists to force their opinion on the medical profession, even through its own members, has never ceased! This is evinced by the more recent attempt of the American Foundation poll of 2200 physicians out of 106,000 on their opinions regarding changes in medical practice. Naturally, *all* the advocates of change rushed to support the cause—as all zealots do—and the great mass of the profession plugged on in daily practice.

"Even the sponsors of the American Foundation report admit that such men as educators, specialists, and administrators were in the majority, but they offer the excuse that such sampling was inevitable because this class were more accessible and answered more frequently. Most assuredly they did! Why?—They had but to dictate a lengthy opinion to a secretary and mail it off—while the rank and file had neither the time, nor the help necessary to evaluate and answer the problems affecting them. With the results of their 'so called' analysis published, these interested groups presented proposals to the President of the United States with the expressed intention (according to the report of Dr. John M. Peters, secretary of the Committee) of influencing those members of the government who might be interested in or contemplating changes in medical care. They hoped to use the evidence collected by the American Foundation (page 5 'The Story of the Principles and Proposals') in influencing the government! In other words, an attempt was made to get governmental approval and to persuade Federal officials that changes were needed along the lines proposed by this group.

"*Later* the Proposals, somewhat modified, were presented to the New York Medical Society and *then* by them to the American Medical Association at the convention last June. After proper deliberation by the House of Delegates this truly representative body rejected them. Nothing daunted, the sponsors enlarged the committee to include 430 prominent physicians mostly educators, specialists, and administrators, and then attempted to circulate

their proposals with the hope that enough important signatures would give it sufficient weight and influence to make it appear that organized medicine was in favor of radical changes. In explanation of their action the secretary of the Committee of 430 physicians maintained "it would seem axiomatic that it is proper for individuals or groups to attempt to influence or alter policies," yet in the same report he admits the Committee received \$700.00 worth of secretarial and publicity assistance from the American Foundation. Whose hand-maidens are they? Why, after being officially rebuffed within the Councils of Medicine must they force the issue in the public press, and why does one of their members indulge in acrimonious dispute with the Editor of the *Journal of the American Medical Association* through the columns of 'The New York Times,' if their interest is the preservation of American Medicine?

"Organized medicine should be quick to voice its sharp disapproval of such activity and to remind all physicians sponsoring change that there are proper channels through which such proposals may go. The American Medical Association has always been ready to co-operate in proposals for the advancement of medical care whenever such proposals fulfilled the necessary safeguards to the public and the profession at large. The proposals of the 430 physicians DO NOT safeguard the public or the profession against 'state medicine.' In the words of the Committee itself, the proposals are 'elastic.' Such elasticity is dangerous! No approval can be given 'generalizations' even though the proponents deny State Medicine was intended, because the very elasticity of such a scheme soon makes socialization with Federal funds a form of State Medicine and the first step in a government medical bureaucracy."

Dr. Gauthier then spoke for the Woonsocket District Medical Society:

"I feel highly privileged and pleased to bring to you a vote of confidence from the Woonsocket District Medical Society in the form of a resolution that was unanimously adopted at the regular meeting on November 30th, 1937. 'Resolved: That the Woonsocket District Medical Society, mindful of the need of concerted effort necessary to strengthen and keep organized medicine united, expresses its intention of giving unquestionable support to any action that the Rhode Island Medical Society shall take concerning a certain committee of physicians and the principles and proposals that they favor.'

"Our only concern this evening is to vote either for or against the motion before the house, I am for the motion, which means that I am against the Committee and its Principles and Proposals. The resolution before this assembly has been worded very simply, yet adequately. It is understandable, comprehensible, inclusive, and yet it avoids any undue controversy.

"We would be assuming the wrong attitude if we spent our time condemning the signers of this petition. Our attention should be entirely directed to the principles and proposals presented. One can hardly expect government aid or subsidy, without having to submit to government control and all its ramifications. The Committee favoring these Principles and Proposals has and will counter with innumerable explanations to the effect that there is not the slightest commitment of favoring government control. However, with the government furnishing the funds, it is more than likely that it will assume control and thereby, we will be in the midst of government medicine. If such a plan is not the forerunner of government medicine, we must at least admit that it is the best wedge that we have seen in a long time.

"There is a principle involved here, gentlemen, the principle of organization. Organized medicine is made up of its several component societies, correlated and linked by its respective delegates. When a small specialized group decides to evolve "Principles and Proposals" and concentrates on converting and corraling adherents and proponents, taken from this large organized group, this action is a betrayal of the rightful dictates of organization.

"The following question sums up the whole problem:—Do we want the government practicing medicine?—Necessarily, the answer is—no. I believe that it is of the utmost importance that we hold ourselves to very tempered deliberations in discussing such a vital question. Heated arguments will tend to foster indulgence in personalities and make for friction and discord. At no time has there been greater need for co-operation, union and harmony in organized medicine. At no time has there been greater need on the part of the District and State Medical Societies to preserve these happy relations. There seems to be greater confidence of the District Societies in the parent society: the Rhode Island Medical Society. May we conserve this condition and vote upon the resolution before

the assembly in as peaceful and as quiet a manner as possible, so as not to kindle any more friction than is necessary."

Dr. Danforth presented his position as follows:

"I should like the opportunity to state something of my position in regard to the subject under discussion.

"First, I wish to say that I am not in favor of state medicine and in fact I signed the 'Principles and Proposals' because I was and am opposed to medicine under the control of government which means medicine under control of politically minded laymen and that seems to me the surest way to a deterioration of our standards. At the time I signed it seemed probable that some form of government medicine was to be given us by legislative authority against any opposition that medical men might put up. I think that danger is not as imminent now but I do not believe it is entirely overcome and if any form of state medicine must be accepted, it should be in a form devised by the best brains of our profession. My only plea is that if we must accept changes, those changes shall be such as we can all approve as in the interest of medical men and high medical standards and not something that seems opportune or expedient or politically worthwhile.

"Now may I state some of my views in regard to the Principles.

Principle No. 1:—That the health of the people is a direct concern of the government.

This is accepted by medical men without hesitation in many health activities, as *a.* Quarantine regulations at our frontiers are to protect all people, not only those that are indigent. *b.* Health regulations for the control of small pox, cholera, scarlet fever, infantile paralysis, measles, syphilis and the like are a part of our present system of medicine and are for every inhabitant. *c.* Milk inspections to stamp out tuberculosis and all the regulations in regard to tubercular patients, also typhoid precautions and such, are carried out by some government department of Health and Medicine

So I believe that in a fairly broad definition we have been accepting Principle No. 1 for many years.

Principle No. 2:—That a national public health policy directed toward all groups of the population should be formulated.

This is not definite enough to suit me and I should like to know how it would be worked out

and if it must be formulated, because of legislative activity, it should be so done under medical men chosen for their peculiar fitness and training.

Principle No. 3:—That the problem of economic need and the problem of providing adequate medical care are not identical and may require different approaches for their solution.

To this I agree most emphatically.

Principle No. 4:—That in the provision of adequate medical care for the population four agencies are concerned: voluntary agencies, local, state and federal governments.

This needs no explanation. It is a condition that has been accepted and we work under it daily.

Now as to the Proposals.

Proposal No. 1:—That the first necessary step toward the realization of the above principles is to minimize the risk of illness by prevention.

This, it seems to me, may be accepted without reservation. Its scope has been increasing by constant advances in our knowledge and will so continue. This has always been the work of medical men or of men interested in health problems.

Proposal No. 2:—That an immediate problem is provision of adequate medical care for the medically indigent, the cost to be met from public funds (local and/or state and/or federal).

This is one of the most serious matters we have to consider. We might use as an example the Rhode Island Hospital since it is near enough home for us to know and about which we may have opinions. Due to increased costs from required laboratory work, X-ray work, sera, oxygen therapy and constantly advancing but costly methods of surgical and medical treatments combined with reduced income from endowments, the hospital is running at a constantly increasing deficit and consequently a constantly decreasing endowment. If hospital medical care has been reasonably adequate so far, how can it continue? I see no way except by subsidies and I have all the fear of the effect of subsidies that any one of you can have. Regarding this, I wrote Dr. Osgood, who was one of the active workers on the Committee, that it seemed to me that "As soon as subsidies are given, then added control goes with it and the more the subsidy the more the control." His reply was, "This is, of course, to some extent true, but these subsidies are now being given by State or Federal agencies to various private medical organizations in order to

allow them to continue with their work and clinics which would otherwise have to be abandoned," but he also wrote, "I have no hesitation in saying that, badly as it may have been executed, the aim of all those who drew up the 'Principles and Proposals' was to prevent, if we possibly could, the further intrusion of the federal government into the practice of medicine and we were trying to prevent further government control of medical activities."

Proposal No. 3:—That public funds should be made available for the support of medical education and for studies, investigations and procedures for raising the standards of medical practice. If this is not provided for, the provision of adequate medical care may prove impossible.

Proposal No. 4:—That public funds should be available for medical research as essential for high standards of practice in both preventive and curative medicine.

Proposal No. 5:—That public funds should be made available to Hospitals that render service to the medically indigent and for laboratory and diagnostic and consultative services.

Unless funds from voluntary sources are adequate, it seems to me, funds from some tax source must be used for all these Proposals (*i. e.*, Proposals 3, 4 and 5).

Proposal No. 6:—That in allocation of public funds existing private institutions should be utilized to the largest possible extent and that they may receive support so long as their service is in consonance with the above principles.

If we accept the fact that private sources are no longer adequate to provide the conditions of Proposals 3, 4, and 5 then we must accept 6.

Proposal No. 7:—That public health services, federal, state and local, should be extended by evolutionary process.

I think we all may agree.

Proposal No. 8:—That the investigation and planning of the measures proposed and their ultimate direction should be assigned to experts.

It seems to me no one would hesitate to affirm this.

Proposal No. 9:—That the adequate administration and supervision of the health functions of the government, as implied in the above proposals, necessitates in our opinion a functional consolidation of all federal health and medical activities, preferably under a separate department.

Perhaps we are not ready to accept this but something of the kind may be given us and if we

do not ourselves formulate the plan it may be less well done.

"In closing let me say for myself that in signing, my entire idea and aim was to prevent, if possible, the further intrusion of the Federal Government into the practice of medicine. I hoped to have a little part in preventing further governmental control of medical activities. If this is thrust upon us, I do believe that we ought to be ready to advise and direct its method."

Dr. Burgess then stated that Dr. Danforth had expressed in his discussion exactly the point of view which he had when signing these Principles and Proposals. He called attention to the fact that hospitals need aid and if they are to run they must get money somewhere. He also stated that the signatures to these Principles and Proposals were given before the action of the House of Delegates was made public, that he did not want a split in organized medicine, and that it was time to disapprove of these Principles and Proposals in their present form.

Dr. Champlin stated that introduction of ideas and proposals should go through the established channel; that these ideas should be reported to the House of Delegates.

The motion that the Rhode Island Medical Society approve the report of the House of Delegates and adopt the Resolution expressed therein was voted upon and unanimously carried.

The meeting was adjourned.

Respectfully submitted,

GUY W. WELLS, M.D., *Secretary*

WOONSOCKET DISTRICT MEDICAL SOCIETY

Minutes of the November Meeting

The Woonsocket District Medical Society held a meeting on November 30th, 1937. At this meeting, a slate of new officers was presented. The officers chosen are as follows:

President, Francis T. King; Vice President, L. V. Conlon; Secretary, G. G. Dupre; Treasurer, V. H. Monti; Delegate, J. M. McCarthy; Councilor, H. E. Gauthier; Censors, A. Fontaine and J. Reilly.

As is customary, supper was served to the thirty-one members present. The entire evening was devoted to discussion of "Socialization of Medicine."

Respectfully submitted,

GUYON G. DUPRE, M.D., *Secretary*

PROVIDENCE MEDICAL ASSOCIATION**Minutes of the December Meeting**

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Peter Pineo Chase, on Monday, December 6, 1937, at 8:45 P. M. The minutes of the last meeting were read and approved. Their applications having been approved by the Standing Committee the following were elected to membership:

Emilio A. Catullo
Edward Damarjian

The Secretary reported for the Standing Committee regarding the nominations of officers and committees for the year 1938.

Dr. Foster Kennedy, Professor of Clinical Neurology, Cornell University Medical College, read a paper entitled "The Treatment of Acute Skull Injury and the Appraisal of Its Aftermath." The paper was discussed by Dr. Wilfred Pickles, Dr. Madelaine Ray Brown of Boston, and Dr. Walter C. H. Weigner. The meeting adjourned at 10:15 P. M. Attendance 153. Collation was served.

Respectfully submitted,

HERMAN A. LAWSON, M.D., *Secretary*

Miriam Hospital**COMPLIMENTARY DINNER TO
DR. MORRIS FISHBEIN**

The Board of Trustees of the Miriam Hospital entertained the medical staff at a complimentary dinner given in the Empire Room of the Crown Hotel, Saturday, December 18, at 8:00 P. M. Dr. Morris Fishbein, editor of *The Journal of the American Medical Association*, was the guest of honor and the speaker of the occasion. It was attended by one hundred and thirty-five staff members and guests.

Mr. Alter Boyman, Chairman of the Committee of Arrangements, introducing Mr. Max L. Grant, President of the Board of Trustees, as toastmaster, indicated the growth of the Miriam Hospital in the past twelve years by the increase in its medical and surgical staff from twenty-five to one hundred and twenty members. Mr. Grant, as toastmaster, called on Dr. Harry Trieman, President of the Miriam Hospital medical staff, and on Dr. Harold Libby, who, speaking on "The Miriam Hospital's Prog-

ress," indicated the need for future expansion. Dr. Alexander M. Burgess, speaking on "The Hospital and the Practicing Physician," emphasized the increasing importance of the hospital in medical work. He mentioned the report of the Committee of Physicians as a misunderstood attempt to solve the problem of increased expense and diminished contributions in the conduct of voluntary hospitals. Major Charles M. Hoffman, Superintendent of Miriam Hospital, presented an optimistic view of the future charitable support of the institution. Mr. Grant then introduced the distinguished guest speaker.

Dr. Fishbein spoke on "The Hospital and the Community." He described the progress of medicine in the past fifty years, fostered by the development of the voluntary hospital system and the introduction of anesthesia and of asepsis. He emphasized the value of the work of the American Medical Association and the American College of Surgeons in elevating the standards of our medical schools and hospitals and indicated that such progress could not have resulted under any form of bureaucratic control. Charity and the voluntary care of the sick are not dead issues in this country. Dr. Fishbein made the practical recommendation that the members of each county medical society get together and see that no indigent person in their community suffers from lack of medical care. Of the Principles and Proposals of the Committee of Physicians he favors the last:—"That the adequate administration and supervision of the health functions of the government . . . necessitates . . . a functional consolidation of all Federal health and medical activities, preferably under a separate department." This proposal has long been supported by the American Medical Association.

Dr. Fishbein's address was received with enthusiasm and at its close the audience rose as they joined in applause. The meeting was adjourned at 12:15 A. M.

Rhode Island Hospital

Dr. George E. Bowles of Plymouth, N. H., left the Rhode Island Hospital on December 1st, having been an intern for two years. Dr. Bowles is a graduate of Tufts College and Tufts Medical School.

On July 25th, at the Lying-In Hospital, a son was born to Dr. and Mrs. Stanley Davies of War-

wick, R. I. Dr. Davies interned at the R. I. H. and Mrs. Davies is a graduate of the R. I. H. School of Nursing.

Dr. Seth Read of Belfast, Maine, started a two years internship December 15th. Dr. Read is a graduate of Bowdoin College and Harvard Medical School.

Woonsocket Hospital

At the November meeting of the Woonsocket Hospital Staff, Dr. John V. O'Connor read a paper on "Some Phases of Acute Heart Failure." Several members of the staff joined in the discussion. Dr. Thomas J. Lalor gave a review of a case of "Collapsed Lung."

The clinical conference was held November 22nd. A case of cancer of the larger bowel was presented by Dr. Francis J. King. The second case, one of pernicious anemia from the medical service, was presented by Dr. Thomas J. Lalor.

A program of weekly conferences has been started and these will alternate weekly from surgical to medical.

MEMORABILIA

December 10

At the regular meeting of the William W. Keen Medical Club, entertained by Dr. Guy W. Wells, Dr. George W. Waterman read a paper on "Endometriosis."

December 13

Dr. J. Murray Beardsley entertained the Thirty-four Medical Club. Dr. Richard H. Overholt of the Lahey Clinic read a paper on "Cancer of the Lung." The paper was illustrated with lantern slides and motion pictures. It was discussed by Dr. Reeve H. Betts and by members of the club.

December 16

The regular monthly meeting of the Staff Association of St. Joseph's Hospital was held at 12:00 noon. Dr. Vincent J. Oddo read a paper on "Some Diseases of the Kidney." Annual reports of the activities of the hospital and the staff were presented. Luncheon was served at 1:00 P. M.

December 21

At the regular monthly meeting of the General Staff of the Homeopathic Hospital of Rhode Island, Dr. John Rock presented an address on "More About Endocrinology." Luncheon was served.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF GASTRO-ENTEROLOGY

The Rhode Island Branch of the American Association for the Advancement of Gastro-Enterology held its fall meeting at 6 P. M. November 9, 1937, at the Anawan Club, Rehoboth. Following dinner Dr. Thomas J. Hepburn, Professor of Surgery at Tufts Medical College, read a paper on "Peptic Ulcer—Its Treatment, Medical and Surgical." Active discussion was participated in by Drs. Wells, Gerber, Jones, Donley, Clarke, Hussey, Leet, Davis, Cummings, Wing and Eddy. After remarks for the good of the order the meeting was adjourned.

JESSE P. EDDY, 3RD, M.D., *Secretary*

Rhode Island Hospital

SCHEDULE FOR JANUARY, 1938

Thursday, January 6, 1938:

Gyn Staff Meeting 8:30 P. M.

Friday, January 7, 1938:

G. U. Staff Meeting 7:30 P. M.

Surg. Staff Meeting 8:30 P. M.

Tuesday, January 11, 1938:

Clinical Path. Conference 12:00 noon

Tuesday, January 25, 1938:

Clinical Path. Conference 12:00 noon

Mondays:

Surgical Grand Rounds 10:00 A. M.

I Surgical Grand Rounds, January 3, 17, 31

II Surgical Grand Rounds, January 10, 24

Thoracic Clinic 4:30 P. M.

Tuesdays:

Gastro-Intestinal Clinic 9:30 A. M.

Surgical Grand Rounds 10:00 A. M.

I Surgical Grand Rounds, January 11, 25

II Surgical Grand Rounds, January 4, 18

Wednesdays:

Tumor Clinic 10:00 A. M.

Note: The Skin Clinics have been temporarily discontinued

Thursdays:

Orthopedic Grand Rounds 9:00 A. M.

Thoracic Clinic 11:30 A. M.

Fridays:

Fracture Grand Rounds 11:00 A. M.

Pediatric Grand Rounds, Jan. 14, 28, 11 A. M.

Saturdays:

Neurological Grand Rounds 9:00 A. M.

Medical Conference 10:00 A. M.



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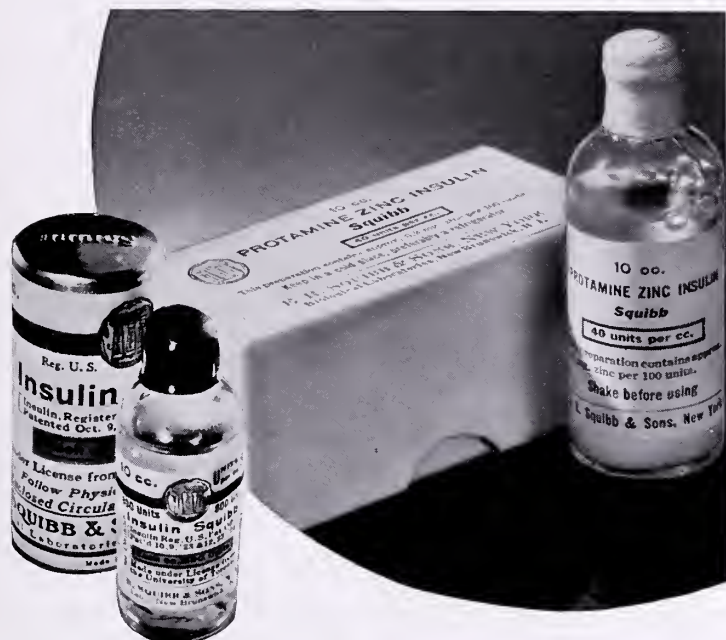
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The New State Hospital for Mental Diseases. By Dr. Seth F. H. Howes

Practical Management of Convulsive Disorders in Childhood. By Dr. Charles Bradley

Neglect of Body Functions — A Source of Personality Maladjustment.

By Drs. Harold W. Williams, Charles Ruff, and Kathryn Schultz

Insulin Shock Treatment of Schizophrenia. By Dr. Hugh E. Kiene

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**Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245
Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60*

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In contrast to the other vitamin deficiencies, cases of severe deprivation of the anti-pellagic factor are not uncommon in certain regions of the United States. It is also known that if the intake of food be drastically restricted for some reason—alcoholism, for example—pellagra may be encountered in localities in which the disease is not endemic (1). For these reasons, it is not unreasonable to suspect that subacute or latent deficiencies of the P-P factor may also be existent in this country.

In the absence of typical dermatitis, available means for the diagnosis of deficiencies of the anti-pellagic factor are not entirely satisfactory. The practitioner must rely upon a variable group of less specific symptoms such as glossitis, diarrhea, digestive

disturbances, and nervous and mental disorders. However, consideration of these symptoms along with an evaluation of the diet upon which the subject had been maintained, may permit the conclusion that suboptimal intake of the P-P factor should be suspected.

The treatment of severe or perhaps even the mild manifestations of this dietary deficiency may require intensive therapy with food products or preparations known to be rich in the pellagra preventing factor. However, prevention of pellagra and maintenance of the cure appear to be largely matters of dietary regulation. In this connection, commercially canned foods deserve particular mention.

Goldberger and his associates directed considerable attention to evaluation of the pellagra-preventive powers of common foods. The values of foods, many of them canned foods, in the prevention of pellagra have been determined (2) by investigations in which human subjects were used.

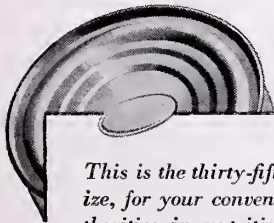
In view of these facts, it is apparent that certain commercially canned foods will prove reliable, convenient and economical in the formulation of diets calculated to protect against mild or severe deficiencies of the P-P factor.

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1. 1937. J. Am. Med. Assn. 108, 15.
1935. Ibid. 104, 1377.

2. 1934. U. S. Pub. Health Rpts.
49, 755.

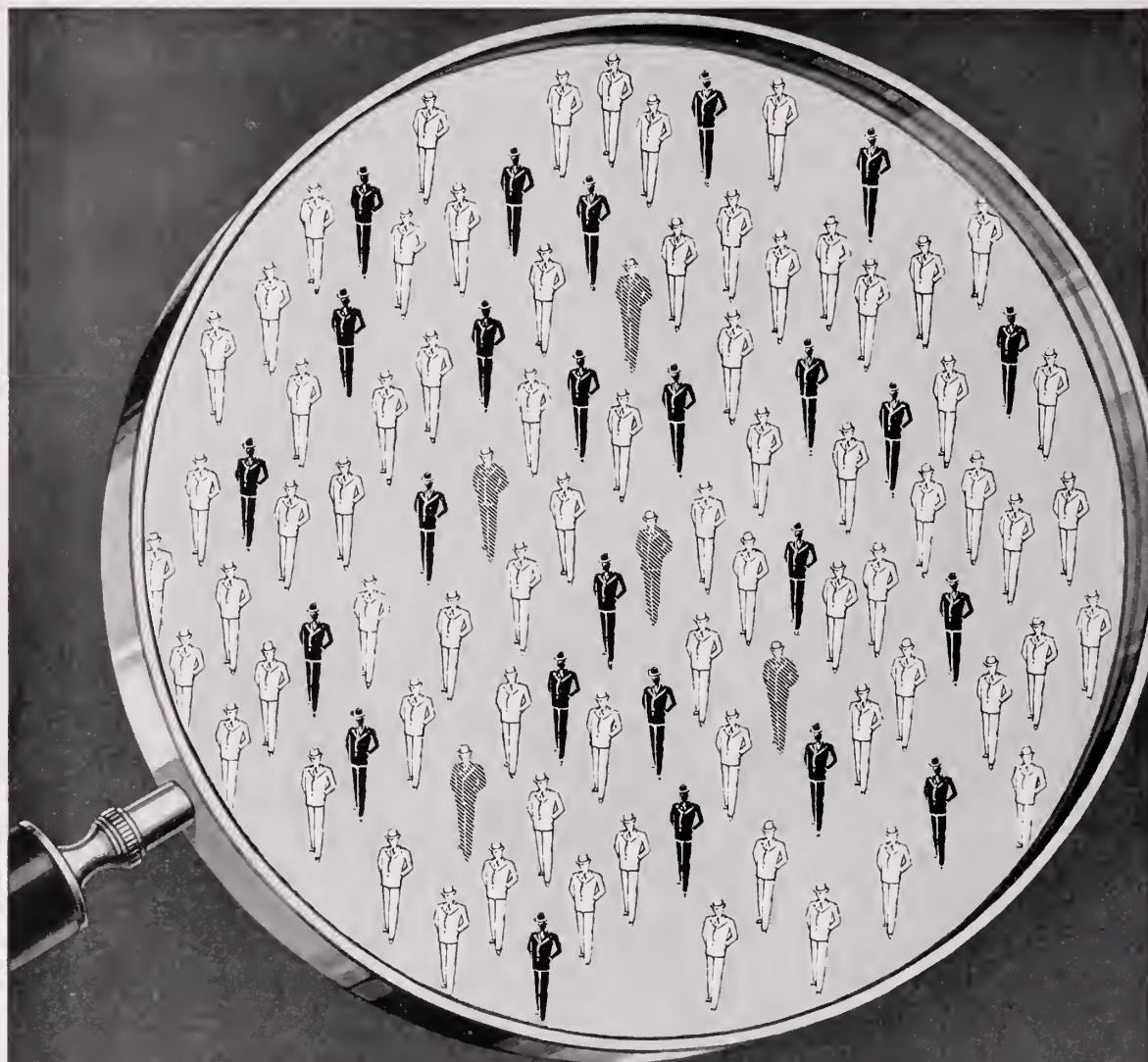


This is the thirty-fifth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



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ific antipneumococcic serum is important. In a series of 160 type I pneumonia cases (R. L. Cecil J. A. M. A. 108:689, 1937) in which specific antiserum was given within twenty-four hours of onset, mortality was reduced to one-third the usual rate in serum-treated cases, and to one-sixth the average rate in cases not receiving serum.

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CERTAIN CONDITIONS IN
VOLATILE VASOCONSTRICTOR HAS
PROVED OF PARTICULAR VALUE
A PRELIMINARY REPORT

LOUIS D. SU'LMAN, M.D.
PHILADELPHIA, PA.
Ear, Nose and Throat Departments,
Curtis Institute of Medical Research

Reprinted from CLINICAL MEDICINE AND SURGERY,
JANUARY, 1937, pp. 25-27.

BENZEDRINE IN PARANASAL SINUSITIS

(A Study of 306 Cases)

By J. ALLAN BERTOLET, M.D.
Philadelphia, Pa.

Some five years ago I made the first report on the clinical use of Benzedrine (benzyl methylcarbinamine),¹ which was, at that time, a new vasoconstrictor of proved potency and with the ad-



Fig. 1—A sagittal section of a normal

characteristic of volatility. In conjunction with other methods of treatment, beneficial results were obtained in 122 cases presenting various types of complications.

Since that report, studies by other investigators^{2, 3, 4, 5} have confirmed these findings and demonstrated further the clinical efficacy of the drug.

When Benzedrine was introduced it seemed reasonable to suppose that its diffusibility as a vapor, it should prove more convenient than liquids for pediatric use. In fact, it seems the vapor would penetrate

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THE GROSS CHANGES PRODUCED IN THE NASAL CAVITY BY BENZEDRINE INHALATION

An Analysis of One Hundred Cases

LOUIS D. SU'LMAN, M.D.

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background of
'Benzedrine Inhaler'

BENZEDRINE VAPOR IN CHILDREN

By JOSEPH A. SCARANO, M.D., AND
JOHN F. COPPOLINO, M.D.
Philadelphia

The disadvantages of the usual methods employed in local treatment of upper respiratory infections in infants and children have been noted. The strenuous object of treatment, tampons or "drops" is often so marked that effective treatment is impossible. Moreover, undesirable use of harsh astringents and secondary reactions often result in children's lipid pneumonia may result of oil inhalants aspirated.

It seemed probable, therefore, that a more effective, therefore, strict substance administrable and successfully used in the treatment of upper respiratory infections in children would be more convenient than liquids for pediatric use. In fact, it seems the vapor would penetrate

RAPIDITY OF SHRINKAGE AND IMMEDIATE
AND SECONDARY REACTIONS
FOLLOWING LOCAL APPLICATIONS OF
EPHEDRINE AND BENZEDRINE

A Comparative Study

JOSEPH A. SCARANO, M.D.

Philadelphia, Pa.

Reprinted from the New England Journal of Medicine
Vol. 209, No. 21, pp. 1044-1052, Nov. 22, 1932

THE USE OF BENZYL-METHYL-CARBINAMINE-CARBONATE IN THE TREATMENT OF RHINITIS*

BY HARRY V. BYRNE, M.D.

A NEW drug for the symptomatic treatment of rhinitis has recently been developed. This preparation is a volatile carbonate related structurally to both ephedrine and epinephrine with somewhat similar pharmacological and physiological properties. Hartung and Munch¹ and Piness et al.² report a marked rise in the blood pressure following the administration of the drug. The latter investigators state that the rise in blood pressure was found coincident to the rise in blood pressure of the secretions of the

Reprinted from the Archives of Otolaryngology
May 1935, Vol. 21, pp. 588-590
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A NEW DRUG FOR TREATMENT OF THE EUSTACHIAN TUBE AND MIDDLE EAR, WITH AN APPARATUS FOR ITS USE

EARL LEROY WERN, M.D., NEWARK, N. J.

Otolologists have long recognized the mechanical nature of the eustachian tube in the middle ear.

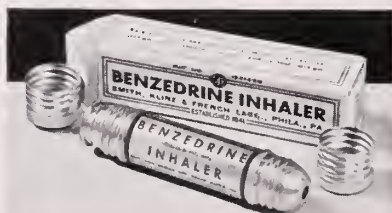
The desirability of treating the middle ear by such treatments have been demonstrated by the application of liquids into the middle ear or by blowing liquids into the middle ear.

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LEST WE FORGET—we who are of the vitamin D era—severe rickets is not yet eradicated, and moderate and mild rickets are still prevalent. Here is a white child, supposedly well fed, if judged by weight alone, a farm child apparently living out of doors a good deal. This boy was reared in a state having a latitude between 37° and 42°, where the average amount of fall and winter sunshine is *equal to that in the major portion of the United States*. And yet such stigmata of rickets as *genu varum* and the quadratic head are plain evidence that rickets does occur under these conditions.

How much more likely, then, that rickets will develop among city-bred children who live under a smokepall for a large part of each year. True, vitamin D is more or less routinely prescribed nowadays for infants. But is the antiricketic routinely administered in the home? Does the child refuse it? Is it given in some unstandardized form, purchased from a false sense of economy because the physician did not specify the kind?

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TOWARD THE PREVENTION OF MENTAL DISEASE

ARTHUR H. RUGGLES, M.D.
SUPERINTENDENT BUTLER HOSPITAL
PROVIDENCE, RHODE ISLAND

This is an age when the prevention of disease is being stressed. The problem of the prevention of mental disease is obviously a most important medical responsibility. Many of us feel that mental hygiene is an important approach to such prevention.

To make clear what I mean by Mental Hygiene, I will quote from Groves and Blanchard: "Mental Hygiene represents a distinct purpose and viewpoint rather than a definite sphere of science. It cuts across many of the divisions that have resulted from the study of human conduct. Of these, psychiatry, psychology and sociology yield most to the accumulating fund of Mental Hygiene." Simplified a bit, Mental Hygiene, as I understand it, is a system of principles or rules, based on adequate experience, for preserving and increasing mental health.

In the past one hundred years we seem to have progressed from that early period where we viewed man's mental ill health as due to demoniacal possession, noxious vapours, or punishment by an all powerful Deity, to a more factual psycho-biological interpretation. During the century passed we have struggled to advance our understanding of the mind diseased on a rather narrow and irregular front. For a long time the "bete noir" was heredity. The sins of our fathers descended upon the children and thus we thought we understood all too easily why many personality changes occurred, why dementia praecox developed and why so many cases did not recover. After a time, careful observers and scientific thinkers realized that in a vast number of these cases heredity failed to give the true answer to many of the existing conditions. We witnessed many a mental disaster in which, as far as investigation could search, heredity did not offer any valid basis for the situation. As a result, we tended to lessen our interest in this approach and sought another simple solution. And this for a time was found, so we thought, in the environment. We became depressed because something in our en-

vironment depressed us—we became antisocial for the same reason—we developed Schizophrenia (for about this time the term Schizophrenia began to come into general use) because of conditions about us, and so another approach to the understanding of behavior problems was offered us; and for a considerable period the environmental factors were stressed and were said to account for a multitude of mal-adjustments. Gradually, we realized we were seeing many individuals brought up in essentially the same environment who reacted in very different ways, and when we witnessed a black sheep and an angel of the same sex, of the same age, growing up in the same environment, we were forced to face the fact that the environment was far from being the whole story. Therefore, again, we reviewed the problem of human behavior with a more critical eye.

It was about this time that workers in the field of mental medicine began to take cognizance of unconscious factors in our daily lives and to recognize that it was often what was within man that dictated his actions and his feelings. Thus, we came to that period in psychiatric thought when greater emphasis was placed upon an attempt to understand the inner yearnings, the strivings, the unconscious conflicts and the frustrations of our patients and to understand that the many things they did and said, or did not do and left unsaid, were the result of what was within the patient rather than being directed by what came from without.

Over six years ago, in a paper read at the first International Congress on Mental Hygiene, Doctor Frankwood E. Williams said: "Development of knowledge, facility, and technique—is of the greatest importance, if for no other reason than that it is a point at which we can attack and with some success cut into the vicious circle of events that continue to produce and reproduce results long recognized as undesirable. We are, after all, not in a position to create a world *de novo*, but must work

in the midst of life itself and of social situations. What is immediately important and practicable is determined, therefore, by what can actually be done, the various factors being what they are. Working on the basis that certain forces, personal and community, have an effect upon the development of the character and personality of the individual is important and practicable, for these things do have an influence, but the point I wish to make here is that perhaps after all, either for good or for bad, they do not have quite the influence we think, or, at least, that they should not and need not have quite the influence that they now have. My point is that really the life of the individual, in a very fundamental sense, is lived within himself; that nothing can hurt the individual from outside, or, for that matter, help him; that the only person who can hurt, or help, any individual is himself; that an individual for his hurt or help can respond only to those things to which he is capable of responding by reason of his own psychic economy.

An individual starts with a certain hereditary potentiality. Wrapped up in these potentialities are certain needs. Things happen to the individual in the very early days of his life, and needs and experience become formulated into problems. Problems seek solutions, but the solutions must be found in the midst of a constantly changing situation with experience piled upon experience. Later, when we come to study the individual in the clinic, the situation has become complicated, for we have to consider not only the original needs of the individual, but what has happened to these in the course of events—the solutions of problems the individual has attempted, the course of failure, partial success, and success, the defenses he has built up against outside forces, their failure, and results, or degree of success, and—more confusing than all and certainly of great importance—the counter-reactions of the individual against himself, the defenses he has built up against the forces within himself." This statement seems to me prophetic and to illustrate the keen insight and far-reaching vision of Doctor Williams, and I believe points the way to a most important period in our approach to the better understanding of mental mechanisms, and one which should be productive of a far deeper and wider understanding of mal-adjustments than we previously possessed.

I sincerely trust that although this method may fail to reveal for a long time to come *all* of the deep-seated inner strivings of man, we shall not for

that reason believe it has failed and blithely pass on to other fields in our search for a better understanding of man and his conduct.

On one point at least we have all united: all behavior has an underlying cause. Medicine has always sought the cause of disease, and when it has been found our therapeutic efforts have always been stimulated, made more exact and proportionately more successful. This must be the principle constantly adhered to in mental medicine, if we are to develop the science and perfect the art. However, just a word of warning: in following new gods, are we always sure it is wise to discard the old? Often the illumination coming from the flame of the new altar lures us away from other shrines gleaming, at the moment, less brightly. Must we not continue to search in the field of genetics for a better understanding of biological sources of unstable or damaged material? Must we not endeavor to learn more about what we loosely refer to as predisposition? Just because we do not know enough about heredity to prognosticate which children in a family will be stable and which unstable does not release us from the duty of continuing our search with the hope that with the aid of the geneticist, the anthropologist, the embryologist and of the chemist we may yet learn some of the secrets of biological transmission.

Also, is there not much yet to be learned from environmental causes? I know that after a number of years of experience with behavior problems in the Bradley Home we have demonstrated that many serious disorders of behavior can be promptly, and at least temporarily, modified by removing the individual child from a bad environment and placing him in one in which the total environment, including the attitudes of those about the child, is constantly wholesome; and we ourselves witness all too often the effect of environment upon our own moods and our own thoughts. Therefore, in our future studies let us not neglect environment, but rather let us continue to study it with an ever increasing quantitative and qualitative analysis.

But, let us return for a moment to the central theme of the thought I want to leave with you—namely, that there is within the individual much of the determinant which directs behavior. We already have a large body of evidence which shows us that one of the many problems of mental medicine, namely, alcoholism, is often the result of the inner striving of man for security and a magnification of

the ego, and that it is only by better understanding of what alcohol represents in the needs of the individual that our treatment can be made more efficient. And this simple illustration we must all realize can be multiplied many times in the problems of drug addiction and various other so-called neurotic disorders, as well as in many psychoses.

We are witnessing today changes throughout the world that may cause a collapse of some of our civilizations. If this does happen new civilizations are bound to rise, and the hope for them I believe lies in a better and broader education of the individuals concerned—an education which begins in childhood and deals far more than has the past education with the problems that lie deep within us, so that future generations may be equipped with a better understanding of the emotional life, and with an increased knowledge of the domination of these inner forces. Added to this we must have certain fundamental philosophies which are satisfying to us which will be enduring and which will make for inherent strength rather than fatal weaknesses.

I will conclude with the expression of the hope that Mental Hygiene may not be too narrow and too one-sided but rather that it proceed in its search for the scientific foundation of the principles of heredity, and the application of these principles, when discovered, for the benefit of mankind; that we shall continue to urge upon society the understanding of constructive and destructive forces in environment; that we shall strive to eliminate malignant forces and to develop in society those elements which shall make the world a better and a happier place in which to live.

Along with these two disciplines in man's life, may we be ever mindful that our search for the ultimate good shall never fail to emphasize the need of sound scientific understanding of the inner life of each one of us, remembering that the inner life is made up of both biological and psychological factors. Our studies should go forward on a broad, cooperative, scientific front—never on a narrow, subjective quest. This is not a simple formula for the individual, rather is it a very exacting one, but few of the worthwhile problems of the world are simple and easy of solution. Therefore, to achieve one of the greatest needs of humanity—namely, to preserve mental health and to prevent mental ill health, we must be prepared to follow a long, complex and tedious pathway, ever realizing the wise saying of old, "Know the truth and the truth shall make you free."

THE NEW STATE HOSPITAL FOR MENTAL DISEASES

SETH F. H. HOWES, M. D.

SUPERINTENDENT OF THE RHODE ISLAND STATE HOSPITAL
FOR MENTAL DISEASES, HOWARD, RHODE ISLAND

Questions regarding the State Hospital for Mental Diseases which have been put to me, not only from the laity, but by members of the medical profession, as well, have indicated that there are few, even within the medical profession, who have any real conception of the functions, needs or future prospects of the Hospital. I am convinced that a more intimate knowledge of facts will be most beneficial to the Hospital and not without benefit to the members of the medical profession.

Judged by accepted standards as to the area requirements in a well planned and organized hospital for the mentally ill, the State Hospital for Mental Diseases was, prior to the beginning of the present building program, nearly one hundred per cent overcrowded. In other words, approximately 2400 patients were jammed into space originally intended for 1300. The Hospital had the distinction of being the second most crowded institution of its type in the United States. For many years succeeding superintendents of the State Hospital for Mental Diseases tried by other means to put before the public the situation at the Hospital, its seriously overcrowded state and the need for more space for patients and for increased facilities for treating them. Their efforts, except in a few isolated instances, proved fruitless until, in the summer of 1936, overcrowding had reached the point of saturation and it became necessary to curtail admissions, thus interfering with the ability of the people in the community to rid themselves of mentally sick persons. When this situation developed, the needs of the Hospital at last became apparent and with the whole hearted assistance of the medical profession, the Department of Public Welfare and the Superintendent were able to accomplish what years of effort on the part of the superintendents alone had been unable to accomplish, make the people of the state see that immediate and drastic measures were necessary to overcome an intolerable situation. This culminated in approval by the voters of the state, of the bond issue of August 6, 1934, which permitted the erection of new and the remodeling of old buildings at the State Hospital.

The program includes the erection of eighteen buildings, at a cost of approximately \$5,000,000, of

which the Federal Government has furnished, or will furnish, forty-five per cent of the funds, the State, fifty-five per cent.

The patient capacity of the entire hospital plant when all new buildings are ready for occupancy will be approximately three thousand. It now appears that the Hospital population will not reach the three thousand mark until 1941 or 1942.

Perhaps the key building in the new State Hospital organization will be the Psychiatric Clinic. This is a building of one hundred and twenty bed capacity, with six wards of twenty beds each. Its functions will be the treatment of cases of mental illness which are regarded as possibly recoverable. If present plans materialize these patients will be provided with comfortable, pleasant surroundings. There will be adequate medical and nursing personnel, which will make it possible for patients to receive intensive psychiatric treatment, provided in few public institutions for the mentally ill. The building will contain facilities for the various types of therapy which have been found to be of value in psychiatric treatment, most important of which is individual attention to the patients' problems by trained psychiatrists. The building is so constructed as to make it possible for it to function as a unit and so located as to isolate it from parts of the Hospital which are devoted largely to the care of those suffering from chronic mental ailments. The patients who are suffering from mild mental ailments and those cases in which the prognosis is regarded as favorable will not be obliged to rub elbows with chronic cases as at present. It is planned to admit to the Psychiatric Clinic a greater number of patients who will come on a voluntary basis, to admit not only those persons who are suffering from benign psychoses but those who are in the incipient stages of more malignant psychoses, in order that they may have early treatment as a preventive measure. There are those who feel that a department of the type of the Psychiatric Clinic will add greatly to the expense of the care of the mentally ill in the state and that the people should not be burdened with this expense, since there are private institutions which possess all the facilities which the Psychiatric Clinic will possess. It may be said, however, that the facilities of such private institutions are not always available to the class of patients who come to the State Hospital for Mental Diseases. It is not intended that the new Psychiatric Clinic will provide treatment for those persons who are in a position to afford treatment in

private institutions. The Psychiatric Clinic will provide more adequate treatment for those of the social group which the State Hospital now serves. Considering the situation from the standpoint of economy alone, if, by treating a patient early and intensively, his becoming a permanent hospital resident may be avoided, economies are bound to be effected. Since it costs the State approximately \$6.00 per week, or \$325 per year, to maintain a patient at the State Hospital for Mental Diseases, it will require the discharge, rather than the permanent hospitalization, of only a few such cases to make the Psychiatric Clinic worth while from the standpoint of economy alone even though the expense of giving the intensive treatment may be a little greater than the present cost.

A function which the limited facilities of the State Hospital have hitherto made it difficult to carry out, but which it is hoped may be developed in connection with the new Psychiatric Clinic, is that of teaching the younger members of the medical profession who may be interested in psychiatry. The Hospital has for several years been among those approved by the Council of the American Medical Association for residencies in psychiatry. The Psychiatric Clinic will add greatly to the facilities of the Hospital for the training of residents. It is hoped that members of the medical profession of the state will make use of the additional local source of psychiatric information which the Psychiatric Clinic will provide.

Second only to the Psychiatric Clinic building in its importance in the State Hospital's building program and a valuable adjunct to it will be the new Medical Building, which is being erected at a cost of approximately \$500,000. This building will be a general hospital unit for the care of the physical ailments which naturally arise in the care of three thousand patients who are mentally ill and approximately four hundred employees of the Hospital. It is a four story brick structure. On the fourth floor will be an operating suite with two major operating rooms and accessory units constructed and equipped in accordance with the most modern ideas of hospital construction, artificially lighted and air-conditioned. On the second and third floors will be wards for patients, with all necessary equipment including special facilities for isolation and open air solaria. On the first floor, in addition to office and admitting facilities, there will be an eighteen-bed ward for employees. Hitherto employees of the Hospital received medical

care in improvised quarters off the wards. The new ward for employees will be fully equipped and furnished and in every respect adequate.

One wing of the first floor will house a number of special departments: a minor surgery; a pharmacy; a dental office and laboratory; chemotherapy room; eye, ear, nose and throat examining room; X-ray department; physiotherapy department. One wing of the basement of the building will be devoted to facilities for the Nurses' Training School: library, classrooms, diet and scientific laboratories, which will render the facilities for training nurses comparable with those of any general hospital in Rhode Island. In the basement there will also be a well equipped modern kitchen, designed to care for the needs of five hundred and fifty patients. This basement is connected by tunnels with the new building for the tuberculous and the old Reception Building, which will be used to house senile patients. The building for the tuberculous and the building for senile patients will be administered from the Medical Building.

The Medical Building will be conducted in every respect as a general hospital. In charge of it will be a physician well trained in general medicine and with psychiatric training as well, a consideration which is regarded as important since he will be dealing with the mentally ill. He and his assistants will be relieved of all psychiatric duties and will devote their full time to the physical needs of the patients. All medical, surgical and other special activities will be concentrated in this building. Not only will those acutely ill with physical diseases be treated here but special medical studies of those not acutely ill will be performed, studies which are often necessary in investigating the background of mental diseases. Not only will those from the general wards receive care in the Medical Building, but those from the Psychiatric Clinic as well. The Hospital will, therefore, have an intramural consultation service which, it is hoped, may be augmented by a staff of competent medical specialists from the community. To those of the medical profession who have served on the consulting staff of the Hospital the need for a centralized department for the treatment of organic diseases has long been apparent. It is the hope of the resident medical staff of the Hospital that by offering better facilities for its consultants the latter will be more inclined to give their services and will stand to gain more from their association in a consulting capacity with the Hospital than they have in the past. It should

be stressed that since the Hospital is designed for the care of the mentally ill, psychiatric treatment is of prime importance. It is thought, however, that such treatment will be rendered more satisfactory as a result of the new medical unit, since maintenance of physical health is regarded as a most important factor in maintaining the mental health of patients.

Operated in close conjunction with the medical building will be the new building for the tuberculous, with a capacity of ninety patients. It is thought that this will be sufficient to take care of the present needs of the Hospital and it is hoped that, as a result of the better facilities for isolation and treatment of the tuberculous, the incidence of this disease will be appreciably lowered. It is hoped eventually to apply all the modern methods for the treatment of the tuberculous in vogue in the special hospitals for the treatment of this disease.

A special feature of the building program which is considered of almost equal value and importance to the Hospital as the medical building and the building for the tuberculous is the construction of two buildings for disturbed patients, one for men and one for women, each having a capacity of two hundred and forty beds. These buildings will be complete units in themselves, set apart from other buildings so that the disturbed patients will not annoy or be annoyed by the remainder of the patients. In each building for the disturbed there will be six wards with a capacity of forty patients each. This will make possible the segregation of the various types of patients, thus to a large extent eliminating the contamination of one group with the particularly vicious tendencies of another group. It will make possible the application of special methods of treatment to groups requiring such treatment. In these buildings it will be possible to apply to those among the disturbed patients who are not entirely lacking in social standards, those who have preserved some of the better aspects of their personalities, special methods of treatment designed to rehabilitate them. At least it will be possible for such patients to remain free from the sordid influences of the more deteriorated patients and thus be saved from permanent isolation in hospitals for the mentally ill. The buildings will have excellent facilities for recreation, for hydrotherapy and eventually for occupational therapy, which have been entirely lacking in the present inadequate quarters. The buildings will contain complete dining facilities which will further permit the isolation

of the so-called better class of patients from the more deteriorated groups.

The Hospital will thus have the best of accommodations for those patients who are suffering from recently developed and mild mental disorders and who are regarded as recoverable, on the one hand, and on the other, for those suffering from the more malignant and severe forms of mental disease, from among whom a few may be salvaged. The wide separation of these groups should work out to the advantage of both classes of patients.

There is a middle group which constitutes the greatest percentage of the patients—those who are suffering from chronic mental ailments and probably will not recover but who, if given the advantage of proper segregation and treatment, might be retrained and resocialized, perhaps returned to the community to become useful citizens. The cases of these patients are by no means regarded as hopeless. Although it may not be possible for all of them to be returned to the community, the new facilities will permit these people to live in comparative comfort in the Hospital. It is this group which does a large portion of the work necessary to permit the various departments of the Hospital to function. For these patients, in addition to old buildings, will be provided two continued treatment buildings for women, with a combined capacity of two hundred and forty, a remodeled building for women with a capacity of forty, a continued treatment building for men with a capacity of two hundred and fifty, a remodeled treatment building for men, with a capacity of one hundred and sixty. These buildings contain no special facilities for treatment, but are constructed with a view to sanitation and the comfort of patients. In them will be located facilities for recreation which will relieve the humdrum course of ward life. There will be a number of minor facilities for occupational therapy and hospital industries.

There are certain other features of the program which, though not of direct medical or psychiatric significance, are important in the administration of the Hospital and are necessary adjuncts to the ward buildings. Without them the Hospital could not function at the high level which the other new buildings will make possible.

There will be a Chapel and Auditorium Building with a seating capacity of twelve hundred and twenty. This will provide facilities for religious services and recreation and will replace an old hall located on the second floor, which was large enough

to accommodate only a small percentage of the patients and constituted a serious fire hazard.

A new Administration Building is to replace an old suite of offices occupying a portion of a building, the rest of which was devoted to living quarters for employees. Removal of the administrative quarters from this building makes it possible to convert the space which they occupied into a cafeteria for employees, who formerly were crowded into quarters so small that it necessitated the serving of three shifts at each meal and which could not be adapted to the increase in personnel occasioned by the growth of the Hospital.

The building program includes the replacement in the main kitchen of antiquated, broken down and generally inadequate equipment with new equipment, and the remodeling and re-equipping of the patients' main dining-room to accommodate it to cafeteria service. This work was a matter of absolute necessity since with the old type of service the dining-room had become much too small and could not be made to meet the needs of the increased population of the Hospital. The institution of cafeteria service for patients will not only make it possible to serve all the patients, but it will give them a more pleasant environment in which to dine, a greater choice of food and may be operated much more economically than the old type of service. As an adjunct to the kitchen and dining-room service, a new refrigerating plant has been installed.

In order that the Hospital might expand and function properly it was necessary to furnish adequate living quarters for employees. To meet this need there have been constructed two new dormitories for nurses and other employees, each with a capacity of one hundred and forty persons, a staff house for single physicians and officers of the Hospital, and five cottages for married physicians.

The remaining project in the building program was the removal of the Dairy Barn from its location in the midst of ward buildings to a new site apart from the remainder of the Hospital. To it was added a dairy wing which not only increased the capacity of the barn so that most of the milk used in the Hospital might be produced, but made it possible to produce this milk under sanitary conditions comparable to those of modern dairies in the community.

Finally, there have been constructed several new garages, storage buildings and sheds, each one in itself of minor importance, but contributing to the efficient administration of the Hospital.

These new buildings will render the Hospital a well equipped, adequate institution, equal to any of its type in the United States. With such a plant, provided funds with which to operate it are furnished, there seems to be no reason why the standards of psychiatric care accorded to those in the State of Rhode Island should not be equal to those of any other state. That such standards be maintained is largely the problem of the medical staff of the Hospital. If it has the understanding cooperation of the medical profession, I am sure that such standards will be maintained.

PRACTICAL MANAGEMENT OF CONVULSIVE DISORDERS IN CHILDHOOD

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One of the more common medical emergencies met by the pediatrician and general practitioner is the occurrence of convulsions in a child. So common an emergency merits the attention of medical men, particularly as scientific developments within the past few years have placed at our disposal new diagnostic and therapeutic facilities. To consider this subject completely is far beyond the scope of a brief article, but a short discussion of the subject in the light of up-to-date concepts, emphasizing the practical aspects of treatment, would appear to be timely. Detailed discussions are available in the various bibliographical references.

The viewpoint that a convulsion is essentially the symptom of an underlying pathological condition and is not in itself a disease is gradually becoming adopted by most medical men who are familiar with the subject.¹ The occurrence of a convulsion in a child is no more diagnostic of a specific disease than is the occurrence of a cough. The old but vague concept of epilepsy as a disease entity characterized by repeated severe convulsions and eventual mental impairment would seem to serve little purpose at the present time except to discourage the patient and his parents. Much more to the point is the concept that if convulsions occur a definite and systematic search must be made for the cause of this symptom, and steps must always be taken to prevent its recurrence.²

There is no need to describe here the classical manifestations of a convulsive disorder such as

grand mal and petit mal seizures and the various equivalents. The fact that a particular type of personality is very frequently seen in children who are subject to convulsions must always be recognized. Such children are often irritable, self-centered, and their behavior varies without obvious reason from day to day. In school, arithmetic is characteristically the worst subject. Intelligence may be entirely normal, but frequently where severe convulsions have occurred often over long periods of time, intelligence may appear to be impaired. In such cases eventual control of the convulsions rarely restores intelligence, and, therefore, every effort should be made to bring the condition under control as early as possible.

Etiology

In spite of scientific progress a large percentage of convulsive disorders must still be regarded as of unknown etiology. Of course, efforts should be made to produce evidence of brain injury or any metabolic disturbance which might be susceptible to treatment, and thus remove the cause of the condition. Mechanical trauma, with resulting localized scar or depressed bone fragment, or the damage which comes with an expanding intracranial lesion, such as a tumor, may definitely cause convulsions, and often may be treated successfully surgically.³ Convulsions may also occur secondary to toxic conditions, such as lead poisoning,⁴ hypoglycemia,⁵ uremia,⁶ etc., all of which require medical treatment, and the practitioner who neglects to search for definite causes and merely gives palliative treatment is not fulfilling his obligations.

Clinical Study of the Patient

An adequate history and physical examination is presupposed in the hands of any competent medical man. In the history definite inquiries as to whether there has been any evidence of injury to the brain either at the time of birth or subsequently in association with mechanical accidents or illness, such as encephalitis, are important. Many contagious diseases and asphyxiating conditions in infancy, such as pneumonia or severe whooping cough, may be accompanied by encephalitis resulting in brain damage.⁷ The circumstances surrounding seizures should also be investigated as apparently some attacks are precipitated by emotional trauma,⁸ some are said to be allergic in origin,⁹ and some may not be real convulsions at all. Such manifestations as tetany, breath holding spells or temper tantrums should be ruled out.

The physical examination should particularly aim at producing evidence of any localized intracranial lesion, such as might be demonstrated by inequality in reflexes, sensation, or disturbances of the eye-grounds.¹⁰ In questionable cases a neurological consultation is doubtless advisable since localized brain lesions may definitely be susceptible to surgical treatment. Blood chemical examination may be useful in ruling out hypoglycemia, renal insufficiency, or low calcium tetany in young infants. An X-ray of the skull for evidence of depressed fracture or signs of increased intracranial pressure is essential in most patients. The pneumo-encephalogram,¹¹ although now in wide use and a safe procedure in experienced hands, serves its main purpose in confirming evidence picked up on physical and neurological examinations. Many competent workers are beginning to feel that it is not essential except in this light.

In children it is sometimes difficult to distinguish between convulsions and other conditions simulating them, such as have been mentioned above. The pitressin test, wherein convulsions are induced in susceptible children by temporarily producing a positive water balance, is a useful but drastic form of hospital diagnostic procedure.¹² The use of convulsive drugs, such as cardiazol or metrazol which in small doses will produce seizures in children who are predisposed to them, is also a fairly radical form of diagnostic measure.¹³ The electro-encephalogram, now in its developmental stages, yields definite evidence of the presence of a convulsive disorder without upsetting the patient and will doubtless come into clinical use for this purpose.¹⁴

Treatment

There are several aspects to the treatment of convulsive disorders which for convenience will be itemized as follows.

Surgical: If there is evidence that a localized intracranial lesion is responsible for the convulsions, the patient should be referred to one of the recognized neurosurgical clinics for complete investigation and possible operation. Such investigation and treatment is often astonishingly effective in experienced hands. Suitable cases are fairly rare and their radical treatment should not be attempted by the average surgeon except as a measure of last resort.

Medical: The physician is frequently called by an excited parent for advice as to home remedies in the treatment of a convulsion. Since most attacks subside spontaneously without treatment the fam-

ily may well be advised to leave the child alone or place him on a bed. If it appears wise to give them something actually to do an enema can do no harm, occasionally relieves constipation, and satisfies the family. The use of mouth gags, hot tubs, etc., may produce burns or mechanical damage in indiscreet hands, and as a general thing are not advisable.

If seizures are prolonged or repeated, the physician himself should probably see the child. In his hands, inhalation anesthesia with ether or chloroform, if available, is probably the most rapidly efficacious form of treatment. If they are not available and the case is urgent, intravenous drugs, particularly sodium pentobarbital¹⁵ in doses of 1 to 3 grains or paraldehyde¹⁶ in doses of 1 or 2 cc., may be given. Intravenous drugs should be given very slowly and paraldehyde will be painful and cause a slough if it gets outside the vein.

In less urgent cases the use of powerful, rapidly acting hypnotics, such as chloral hydrate in doses of 10 to 15 grains or paraldehyde in 4 to 6 dram doses by mouth or by rectum in older children with correspondingly smaller doses in infants, is very satisfactory. Naturally doses larger than the usual sedative amount are required.

Where no specific cause has been ascertained as the focus of treatment, empirical measures to control convulsive attacks must be used. Fortunately, they are fairly efficient. Phenobarbital, in doses of $\frac{1}{4}$ to $\frac{1}{2}$ grain three times a day even in small children, may be kept up for long periods of time, and is the most popular form of treatment in this country.¹⁷ Sodium bromide or mixed bromides in doses of 10 to 20 grains three times a day is more popular elsewhere, although their salty taste and larger dosage sometimes make administration difficult for children.¹⁸ Both of these drugs may produce skin rashes in which case a change should be made. If large maintenance doses of sedatives are necessary to control the convulsions but are accompanied by somnolence, caffeine citrate in 3 grain doses once to three times daily may also be used.

The ketogenic diet has within the past few years been a popular and effective form of treatment in the hands of pediatricians.¹⁹ It requires careful measurement of the ingredients to assure sufficient balance of fat as opposed to carbohydrate and protein, to produce definite ketosis. It can be used in the home only under constant supervision. Complete understanding of its mechanism and administration by the physician is necessary. Certain of the ingredients of this diet are expensive and since it is troublesome to prepare and disagreeable to take,

it should not be prescribed at random. If effective it should be maintained for at least six months after the occurrence of the last seizure. Dehydration diets,²⁰ although effective in adults, require the cooperation of the patient and are, therefore, not adaptable for small children. Except in unusual cases, there is no good reason for the special dietary treatment of children who have convulsions except under one of the above regimes.

Environmental: All observers of convulsive disorders have noted that mental upsets or disturbance may precipitate occasional convulsions in susceptible people.²¹ In general, it is wise to have children live as busy, happy, and constructive a life as possible in spite of their handicap, and calm, matter-of-fact handling of the patient by adults is some assurance of improvement.

Summary

The frequency of convulsions in childhood render their consideration important for the pediatrician and general practitioner. A search should always be made for the underlying cause, and the seizures should always be considered symptoms of some disorder. There are a number of definitely accepted forms of treatment, both for chronic and emergency use, some of which are available to any practitioner and some of which should be attempted only in the most experienced hands. No prognosis should be given without thorough investigation and the trial of accepted forms of treatment. The parents should always be given as clear an explanation of their child's disorder as possible.

REFERENCES

1. Lennox, W. G., and Cobb, Stanley: *Epilepsy*. Medicine Monographs XIV, Baltimore, Williams and Wilkins Company, 1928.
2. Cobb, Stanley: Causes of epilepsy. *Arch. Neurol. & Psychiat.* 27: 1245 (May) 1932.
3. Penfield, Wilder: The radical treatment of traumatic epilepsy and its rationale. *Can. Med. Assoc. J.* 23: 189, 1930.
4. McKhann, C. F., and Vogt, E. C.: Lead poisoning in children. *J. A. M. A.* 101: 1131, 1933.
5. Harris, Seale: Epilepsy and narcolepsy (?) associated with hyperinsulinism. *J. A. M. A.* 100: 321, 1933.
6. Blackfan, K. D., and McKhann, C. F.: Acute glomerular nephritis in children; treatment of cerebral manifestations. *J. A. M. A.* 97: 1052, 1931.
7. *Brennemann's Practice of Pediatrics*, Vol. 4, Chap. 7, Hagerstown, Md., W. F. Pryor Co., Inc., 1937.
8. Fremont-Smith, Frank: The influence of emotion in precipitating seizures. *Am. J. Psychiat.* 13: 717 (Jan.) 1934.
9. Clarke, T. W.: *Epilepsy of allergic origin*. New York State J. Med. 34: 647 (July 15) 1934.
10. Ford, F. R.: *Diseases of the nervous system in infancy and childhood*. Chap. 1, Springfield, Ill., C. C. Thomas, 1937.
11. Davidoff, L. M., and Dyke, C. G.: The normal encephalogram. Philadelphia, Lea & Febiger, 1937.
12. McQuarrie, I., and Peeler, D. B.: The effects of sustained pituitary anti-diuresis and forced water drinking in epileptic children. *J. Clin. Invest.* 10: 915 (Oct. 20) 1931.
13. Janz, H. W.: Diagnostic value of metrazol convulsions. *Munch. Med. Wchnschr.* 84: 471 (Mar. 17) 1937.
14. Gibbs, F. A., Davis, H., and Lennox, W. G.: The electro-encephalogram in epilepsy and conditions of impaired consciousness. *Arch. Neurol. & Psychiat.* 34: 1133 (Dec.) 1935.
15. Epstein, S. H., and Marvin, F. W.: Observations on pentobarbital-sodium in lumbar punctures, convulsive and manic states. *New England J. Med.* 207: 258 (Aug. 11) 1932.
16. Johnson, A. S.: The parenteral administration of paraldehyde for the control of pain and convulsive states. *New England J. Med.* 210: 1065 (May 17) 1934.
17. Grinker, J.: Further experiences with phenobarbital in epilepsy. *J. A. M. A.* 79: 788, 1922.
18. Diethelm, O.: The bromide treatment for epilepsy in the dispensary. *Arch. Neurol. & Psychiat.* 21: 664, 1929.
19. Talbot, F. B.: *Treatment of Epilepsy*, New York, Macmillan Company, 1930.
20. Fay, Temple: The therapeutic effect of dehydration on epileptic patients. *Arch. Neurol. & Psychiat.* 23: 920, 1930.
21. Masserman, J. H.: Psychogenic factors in some epilepsies. *J. Nerv. & Ment. Dis.* 79: 377 (April) 1934.

NEGLECT OF ELEMENTARY BODY FUNCTIONS — A SOURCE OF PERSONALITY MALADJUSTMENT

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The growing recognition of psychiatry as a part of general medicine has led to an increasing awareness of psychogenic factors in the production of physical complaints, even in such predominantly somatic diseases as arthritis and gastric ulcer. Psychiatry, on the other hand, is becoming increasingly aware of the need and importance of applying physiological knowledge in the treatment of psychiatric conditions or so-called nervous disorders.

Neglect of simple physiological fundamentals such as adequate rest, relaxation, nutrition and the like, may, if continued over a sufficiently long period of time, be reflected in the individual's personality adjustment, his overt behavior, and his subjective feeling of well being.

The symptoms resulting from this neglect frequently lead the patient to seek aid from his family

physician. If the latter is aware of the underlying cause of these complaints, he is in a position to afford the patient great relief and at the same time to prevent the development of what may become a maladjustment of the life pattern of considerable severity. The following two cases illustrate many aspects of these problems and have been selected because of the serious import of the symptoms.

C. L., eighteen, was referred by his family physician because of nervousness, restlessness and violent outbursts of temper. On several occasions he had run away from home and during one of these escapades had a period of amnesia.

His family and past history were not relevant. Around the early part of 1937, it was noticed that he seemed fidgety and restless. Once on slight provocation he violently attacked his brother, choked and bit him. The next day he disappeared from home and was gone for three weeks. His family found later that he had gone to relatives in Maryland. On his return home he went back to work and continued working until the end of April, when he suddenly quit his job. He then hitch-hiked to Florida, and was away from home for three weeks. While on this trip he worked as a golf caddy intermittently, on some occasions going as long as three days with nothing to eat. After returning to Providence he secured a job as a truck driver, but kept it for less than a week, giving it up because he felt irritable and exhausted. Again he hitch-hiked to North Carolina, eating irregularly, and on one occasion, for a six-day period, ate nothing more than a cup of coffee and a doughnut. His head began to throb, he felt quite weak and his memory went blank. He found himself in Baltimore, Md., with no remembrance as to how he got there. Some relatives started him on his way home. En route he had another memory lapse, finding himself beside the road outside of New London, Conn., with no realization of how he had arrived there from New Jersey. He finally reached home, where it was noticed that he was very irritable. He lost his temper easily and was quite argumentative with his brothers and sisters. Everything annoyed him. He complained there was something wrong with his head and appeared quite withdrawn, paced the floor and felt that he was losing his mind.

The patient, when first seen on July 6th, was an immature-looking boy, rather tense and ill-at-ease, who talked freely and was able to give a coherent account of his wanderings. Brief conversation with him elicited several important factors. At the time

he had been working at the mill, his working hours were from seven A. M. to three P. M. He would then spend the remainder of the afternoon loitering around a pool room. After going home for supper, "his real day would begin." With a chum he would meet some girls and go riding, dancing or to the movies. During the course of the evening, he would drink seven or eight glasses of beer. Three or four times a week he would be slightly intoxicated. He did not get to bed until one or two o'clock in the morning, and would arise at five in order to go to work. He took no exercise and would loiter on a street corner for fifteen minutes until he could hitch a ride rather than walk a block. After a time, with this rigorous living, he began to feel run down. At work, towards nine or ten A. M., he would feel sleepy and begin to make mistakes. Reprimands from his foreman accentuated his irritability. As time went on he felt worse and worse until he finally quit his job.

The first interview also revealed some concern over masturbation. His father had warned him that this practice would "rot his brain," and the patient was attributing his feelings of malaise to this cause. As he showed some tenseness and emotional disturbance while discussing sexual matters, he was encouraged to speak frankly on this topic, whereupon he mentioned that he had been over-stimulated with no possibility of relief in his companionship with one particular girl. Consequently he had relieved his tension by masturbation and sporadic illicit sexual contacts, concerning which he had had numerous conflicts. After this discussion of the sexual difficulties of his life, the patient appeared much more at ease. As the first step towards treatment, the necessity for a simple regime of living was outlined to him. Since he had trouble falling asleep, he was directed to take a warm, relaxing tub at bedtime. He was instructed to be in bed by ten o'clock at night and sleep until seven. As he was not working it was outlined to him that he could obtain some outdoor exercise daily. He was also advised to keep occupied and not let his mind dwell on sexual matters. He promised to refrain from alcoholic indulgence.

Some improvement was noted when he returned to the clinic a week later. He stated that he had been following the physician's advice and was getting on well. Two weeks later he appeared in very good condition. He came in with a sprightly step, seemed quite happy and at ease. He commented on his ferocious appetite and mentioned

that he had gained four pounds during the week. He was spending most of the day bicycling and swimming. At this time he was again reassured concerning masturbation. He stated that he was now able to control the habit. On his fourth visit he was slightly apprehensive because he had masturbated once but was readily reassured.

The patient was not seen again until the middle of September. At this time his weight had increased three pounds more. He had spent the latter part of the summer vacationing at a camp and appeared to be in very good health, stated that he felt fine. He had obtained a job, which he liked, earning around \$15.00 a week, and he no longer felt unduly tired. He was getting eight or nine hours' sleep, was moderate in his recreation, and had no worries. He felt that he was much better. At the last report the patient has continued to do well, is making a good adjustment to his job, and feels quite fit.

E. H., a twenty-six year old shoe salesman, was referred to the clinic because of "incipient mental changes suggestive of early dementia praecox."

Two months before, he had given up the position which he had held for five years, because he could not sleep, was unable to concentrate, felt tired and restless, and had no confidence in himself. Conversation with him disclosed that for over a year, in addition to working from nine to six-thirty, he had been attending night school four nights a week and had been seeing his fiancée every evening. He lived some distance from his place of work so that he had been averaging around five hours of sleep nightly and had had no time for exercise. His appetite was very poor and he had been feeling "quite run down." The breaking of his engagement aggravated his symptoms.

After giving up his job, he spent his time at his home in the suburbs occupying himself by chopping wood, caring for the lawn and fences and with other outdoor tasks. Soon he was sleeping nine hours, his appetite improved and he felt considerably better. By the time he came to the clinic he felt quite well and had regained full confidence in himself. As the regime he had worked out for himself seemed satisfactory he was encouraged to continue with it.

Two weeks later he felt physically well but still lacked confidence. He showed a tendency to indulge too strenuously in his outdoor tasks, so that some days he felt very tired, and he had also resumed attendance at night school. The necessity of moderation in activity and adequate relaxation was stressed to him and he was encouraged to return to

his work. When last seen he had resumed his work. He stated that he felt quite well and had no further complaints.

Physiological excesses, so impairing the body as to prevent normal functioning, may be expressed not only in terms of dysfunction of that particular system whose needs have been neglected, but also in other functioning systems and even in that functioning of the organism as a whole which we recognize colloquially as personality.

A knowledge of normal physiological functioning is more valuable to the physician than is recognized in our current medical teaching, oriented more in terms of disease than in terms of health. With respect to these cases, normal functioning of nutrition, elimination, reproduction, sleep, and the ratio of work and play becomes significant. It is imperative to recognize the body's need of food, of regularity and adequacy of same, of the significance of proper mastication. With their knowledge of the physiology of nutrition, physicians are in a position to instruct patients in the art of eating. Similarly, satisfactory elimination is dependent not only on adequate nutrition and digestion, but also on awareness of normal physiological activity. The peristaltic activity that normally occurs in the lower bowel shortly after eating, combined with the sensation of distention of the rectum, constitutes the ordinary physiological signal for defecation; and unless the sensation is recognized and attended to, dysfunction results.

Many and all of us at times begrudge the time we must spend in sleeping. Failure to recognize the fact that obtaining adequate sleep is part of our job of living a healthy life, results in dysfunction. Bed-time is not a time to indulge oneself in dreams, emotional tangles, personal worries and the like, but to rest a physiologically tired body.

To comment to biologically trained individuals on the need of the proper ratio of work and play may seem trite. This may incline some of us to disregard the importance of elementary physiological requirements in coping with the symptomatology patients present. Activities which demand a great deal of attention and physical exertion evidently do not meet the recreational needs of a person whose daily work makes similar demands. Even more important, the individual has to recognize that he needs both work and play—he cannot afford to count the hours of work as lost, and begin his recreation as if he had the whole day ahead of him.

The protean symptoms arising from inattention to physiological needs may be detected by careful inquiry about the patients' habits and attitudes. This presupposes that the physician is able to evaluate complaints in terms of the individual as a whole, as well as in terms of organs and systems. Having obtained a history of poor physiological habits, confirmation of the diagnosis comes in the therapeutic test.

Treatment consists largely of explanation and education with respect to the elementary physiological needs and facts of the body. Patients are so frequently and promptly relieved that in our experience they adhere faithfully to the prescription. However, it may occur that with relief in symptoms, they revert to old habits. Therefore, adequate follow-up should be carried out until it is certainly established that the new habits have become firmly ingrained. Such drugs as sedatives and cathartics should be avoided, as they merely delay the individual's acceptance of the responsibility for attending to his physiological needs.

Response to such treatment is almost immediate. In the event results are not achieved within two to three weeks' time, in the face of faithful adherence to the prescription, the diagnosis should be suspected and more specialized assistance sought.

Summary

Failure to observe the fundamental physiological requirements of the body may contribute to the development of personality maladjustments. Awareness and correction of these physiological abuses often alleviate symptoms manifested at the personality level and prevent the development of more malignant maladaptation.

INSULIN SHOCK TREATMENT IN SCHIZOPHRENIA

HUGH E. KIENE, M.D.

CHARLES V. CHAPIN HOSPITAL
PROVIDENCE, RHODE ISLAND

Insulin for the treatment of schizophrenia has been tried with a group of selected patients in the Psychiatric Department of the Charles V. Chapin Hospital following reports from various sources as to its value. Manfred Sakel of Vienna, originator of the treatment, states, "I believe from what I

have seen that it promises success." Isabel G. H. Wilson in a survey remarks, "The degree of response to be expected can not be clinically prophesied in any case or group of cases. The method certainly merits ample clinical trial." Joseph Wortis of Bellevue Hospital says, "The percentage of remissions is three or four times better than the percentage of spontaneous remissions we would expect without treatment." Bernard Glueck, also of New York, makes the statement, "The hypoglycemic therapy offers a more promising approach to the problem of schizophrenia than anything we have hitherto had at our disposal." D. Ewen Cameron of the Worcester State Hospital adds, "Our findings have demonstrated that insulin does produce amelioration in the majority of cases."

Nearly all of the patients in this series have been adolescents or in their early twenties. In most instances, they have been mentally ill for a short time and have not had previous attacks of mental disease. Before treatment was considered, each patient's physical condition was carefully investigated and had to be excellent. The mental status was taken before the treatment was begun, carefully observed during the treatment and at its completion, and was followed at regular intervals thereafter.

Regular insulin was used in preference to Protamine insulin and the initial dose was 5 or 10 units. This amount was increased daily by 5 or 10 units until the desired hypoglycemic reaction was obtained. The dose necessary to produce the reaction is variable; it may be 35 units for one patient and 200 units for another. The insulin was administered every day except Sunday and at the same time each day. It was given to the patients in this group at six or seven o'clock in the morning. They were kept in bed from that time until taken out of shock with food or sugar within five hours after the insulin had been administered. In a few cases, six hours had elapsed before the shock was terminated, without ill effects.

In the beginning, 35 hypoglycemic reactions were considered sufficient to effect any improvement thought possible. This number has now been increased to 50. Observations made during this small series lead to the belief that benefit, if any, is apparent during the first 15 reactions. In several patients the treatment had been stopped before the completion of the desired number of reactions, the chief reason being severe convulsions. In some cases a rest period of from several days to several weeks

had elapsed before the treatment was resumed.

The symptoms of hypoglycemia are well known from experience with diabetes. There are some symptoms indicative of cerebral irritability which appear more serious, chief of which are convulsions, restless behavior and tossing about in bed. During the hypoglycemic shock some patients are incontinent of urine while others are not. A rapid gain in weight occurs in most patients during the course of insulin therapy.

The individual daily reaction was stopped by the administration of sugar by mouth, through the stomach tube or intravenously. Response was seen within five to fifteen minutes if the sugar was given by mouth or tube feeding, and almost immediately if intravenous glucose was used. After the desired number of insulin reactions, the course of treatment was tapered off with smaller and smaller doses of insulin.

In the Psychiatric Department of the Charles V. Chapin Hospital, sixteen schizophrenic patients have been treated with insulin. Six of this number were probably of the catatonic type; six were classified as paranoid; three were of the simple type and one was hebephrenic. Four patients are under treatment at the present time. Of the remaining twelve, eight have been sent home and four have been committed to the State Hospital for Mental Diseases. One of those sent home has since returned to the hospital and will eventually be committed to the State Hospital. Another has shown symptoms since discharge which indicate that he will require further institutional care. From this group it may be said that six have definitely improved and six are unimproved. None have become worse as a result of the treatment.

The six improved cases are briefly presented:

CASE 1. Upon admission to the hospital, an eighteen-year-old girl showed religious tendencies, had persecutory ideas, took no interest in her personal appearance and was difficult to manage. She was preoccupied and silly and at times profane. She had visual and auditory hallucinations, was incoherent, illogical and irrelevant in her speech and refused to eat. Her judgment was poor and she had no insight into her condition. Her weight on admission was 103 pounds.

At the age of sixteen she left school when in the eighth grade. Psychological testing in the hospital revealed an I.Q. of 73.

Insulin treatment consisted of 46 hypoglycemic shocks. The average dose of insulin required to

produce shock was 50 units. During shock her temperature was low, usually 93-95. Pulse was slow at times, and at other times rapid. She perspired profusely, was salivated and occasionally voided and defecated in bed. Her body was cold and her limbs became rigid, then relaxed. Inability to swallow was observed as well as hyperactive reflexes, ankle clonus and muscular twitching of the entire body. On at least four occasions there were definite generalized convulsions. She developed chills when coming out of shock and vomited during the early part of her course of treatment.

After treatment the girl showed marked improvement. She still seemed slightly preoccupied and seclusive, but kept herself neat and clean. She was pleasant, got along well with the other patients, showed appropriate affect and was well oriented. Conversation was rational and coherent, and judgment was good.

Since leaving the hospital she has been adjusting very well, enjoying the company of her friends, playing the piano, competing in games, etc. She has worked occasionally when able to get it. Her appetite is good and she sleeps well. Her weight at present is 128 pounds.

CASE 2. A twenty-year-old boy was suspicious, apprehensive and catatonic when admitted to the hospital. He had periods of violence and was reacting to auditory hallucinations. His weight at this time was 124 pounds.

His education consisted of a high school course which he completed in five years. A psychological examination gave him an I.Q. of 111.

Insulin treatment consisted of 11 shocks, and the average dose of insulin required to produce shock was 150 units. During shock he perspired profusely and was salivated. His skin was cold and clammy, face was flushed and there were muscular twitchings. Babinski reflex was present. He was tense, active, cyanotic and had generalized convulsions.

After treatment he was friendly, recognized the fact that he had been sick, felt improved; weight was 163 pounds. He was confident and talkative, no longer shy and reticent, and was appreciative of what had been done for him. Following discharge he located work and at the present time is adequately providing for himself.

CASE 3. Fear, agitation, irritability, confusion and a feeling of physical inadequacy characterized the symptoms shown by a twenty-two-year-old man at the time of his admission to the hospital. He was disinterested, mute and refused to eat. His

weight was 151 pounds. In school he received very high marks and graduated from high school with honors.

Insulin treatment consisted of 31 hypoglycemic shocks. The average dose of insulin required to produce shock was 200 units. During shock his temperature ranged from 94 to 96. He perspired, was salivated and became cyanotic. He held himself rigidly, rolled his eyes and had generalized convulsions. Left Babinski reflex and ankle clonus were present.

After treatment he was pleasant, cooperative, rational and well oriented. He became interested in his surroundings and neat and tidy in his personal appearance. Weight at the completion of his course of treatment was 165 pounds. Soon after leaving the hospital he obtained a position which enables him to support himself adequately.

CASE 4. A young man, twenty-four years of age, was irritable, seclusive, destructive and threatening when admitted to the hospital. He laughed to himself, became upset when questioned, was preoccupied and restless and felt that someone was trying to poison him. He appeared retarded and confused and at times was disoriented. On entering the hospital he weighed 120 pounds. The personal history revealed that he had been a "C" student and that he had left high school when in his second year.

Insulin treatment consisted of 27 hypoglycemic shocks. The average dose required to produce shock was 80 units. During shock his temperature was about 97.4 and his pulse was rapid. He perspired, was salivated, frothed at the mouth and his face was flushed. He held himself tense and rigid, thrashed about and had twitching of the face and extremities. Occasionally he had severe generalized convulsions of the tonic type. At other times, alternating clonic and tonic convulsions were observed. Positive Babinski reflex was also noted.

After insulin therapy his weight was 141 pounds. He became friendly, cooperative and less agitated. At present he is well oriented and fairly alert and is anxious to leave the hospital.

CASE 5. When admitted to the hospital, a twenty-four-year-old girl was suspicious, apathetic and retarded and had auditory hallucinations. She misidentified people and thought she had done harm to her family. Most of the time she was preoccupied, asocial and apprehensive. Her weight was 86 pounds. At the age of eighteen she graduated from high school where she had been a good student.

Treatment consisted of 31 hypoglycemic shocks.

The average dose of insulin required to produce shock was 80 units. During shock her temperature was sometimes as low as 94. Pulse was of good quality but intermittent. She became cyanotic and had several generalized convulsions. Inability to swallow, profuse perspiration and tremors of the hands and muscles around the mouth were observed. Ankle clonus and nystagmus were present. During the last few shocks a Babinski reflex was noted.

After treatment patient's weight was 104, a gain of 18 pounds. She showed a remarkable improvement in that she was mentally alert, friendly and pleasant and no longer heard voices. Following discharge from the hospital she was given the same position which she had held before the onset of her mental illness. She enjoys doing this work and is making an excellent home adjustment.

CASE 6. A man thirty-four years of age, was uncooperative, seclusive, preoccupied and subject to hallucinations when admitted to the hospital for observation. For the most part, he was mute, listless and apathetic. His judgment was poor and he had no insight into his condition. Admission weight was 161 pounds. His education was limited, having completed only grammar school.

Insulin treatment consisted of 51 hypoglycemic shocks. The average dose required to produce shock was 105 units. During shock his temperature averaged 97. He perspired, was salivated and incontinent of urine. His face was flushed and he jerked convulsively. The Babinski reflex was also present.

At the end of the treatment course his weight was 172 pounds. At this time he began to take more interest in his appearance, asked questions about himself and others and helped with the ward work. He conversed readily with others and denied hearing voices.

These patients who have improved will be followed closely over a long period of time. This is essential before any definite conclusions are drawn as to the value of insulin shock treatment of schizophrenia.

REFERENCES

- Sakel, Manfred: "A New Treatment of Schizophrenia," *American Journal of Psychiatry*, Vol. 93, No. 4, Jan. 1937.
- Wilson, Isabel G.: "A Study of Hypoglycaemic Shock Treatment in Schizophrenia," 1937 (Report).
- Wortis, Joseph: "Insulin Shock Treatment in the Psychoses," *American Journal of Nursing*, Vol. 37, No. 5, May, 1937.
- Glueck, Bernard: "Clinical Experience with the Hypoglycemic Therapy of the Psychosis," *Journal of Nervous and Mental Disease*, Vol. 85, No. 5, May, 1937.
- Cameron, D. Ewen: "Journal of Nervous and Mental Disease," Vol. 85, No. 5, May, 1937.

THE PROVIDENCE CHILD GUIDANCE CLINIC

EVELYN ALPERN, M.D., MEDICAL DIRECTOR
100 NORTH MAIN STREET, PROVIDENCE, RHODE ISLAND

Function: A clinic for the psychiatric treatment of behavior and personality disorders of childhood, and for consultation in problems of child psychiatry. For children from three to sixteen years of age, whose families cannot arrange for private psychiatric treatment.

Symptomatology of the Behavior Problem: Symptomatology may include any of the usual behavior disorders of childhood, if persistent and not amenable to common sense methods for dealing with them. Such disorders include excessive fear or shyness, negativism, delinquency, school failure in an intelligent child. Physical symptoms for which no physical basis can be determined, such as vomiting, enuresis, soiling and hysterical manifestations, may be included in this group of disorders.

Etiology of Behavior Disorders of Childhood: Aside from those cases in which there exists an organic basis for the disorder, these disturbances have their origin partly in emotional blocking in the child himself, which prevents healthy personality development. Specific methods of therapy are utilized for dealing directly with this emotional blocking. Difficulties in the parent-child relationship and in the child's environmental setting are seen as factors which may also contribute to the child's disturbed condition.

Method of Treatment of Childhood Behavior Disorders—Direct Psychiatric Treatment of the Child: Therapy is carried on in a series of interviews held at regular intervals with the child himself. Duration of treatment varies from a period of several weeks to several months, occasionally longer. Treatment centers on helping the child to segregate the conflicted emotions which contribute toward his difficulty. A specialized technique of interviewing is used, different from any approach used in child-rearing, education or counseling. This specialized technique is different also from any approach utilizing praise, blame, suggestion or reassurance with the child. With young children a specialized type of play interview is set up. In a setting created to permit spontaneous expression, the psychiatrist helps the child to learn to deal with his own emotions more adequately. Many children, usually only those of at least normal

intelligence, are able through this type of treatment to bring about healthy changes in behavior. The extent of these changes is determined by the limitations in the child's personality structure and by his environmental setting.

The Clinic's Work with Parents: Parents come to a child guidance clinic for help when good advice about child-rearing fails. This often indicates that such parents may present emotional conflicts about parenthood. These conflicts help to create an unhealthy parent-child relationship and to precipitate behavior difficulties in a child. Through discussions with a trained psychiatric social worker at the clinic, a parent can work toward a clarification in his disturbed feeling and thinking about his relation to his child. This often serves to bring about healthy changes in the parent's behavior toward the child.

Procedure for Arranging for Clinic Treatment for a Child: Patients are referred to the Clinic by the parents or by some individual having responsibility in a particular phase of the child's life, as a teacher, social worker, court worker or physician. One or both parents come to the clinic first to describe the problem. If the situation is one in which psychiatric diagnosis or treatment is indicated, the parent arranges with the psychiatric social worker for the child's appointments with psychiatrist and psychologist for examination. The parent makes arrangements for treatment appointments for the child if, after examination, psychiatric treatment seems advisable. The parent is asked to obtain a complete physical examination of the child by his own physician or clinic before the child has these appointments. Any required physical treatment is left in the hands of the physician or clinic consulted.

Consultations About Children Presenting Behavior Problems: Workers in social agencies, educational and health organizations utilize consultations at the clinic for help in dealing with a child presenting difficulties in behavior. Parents and other interested individuals utilize consultations about the advisability of recommending or planning for psychiatric treatment for a child, in cases in which diagnosis of the problem can be facilitated in this way.

Allen, Frederick H., M.D., Psychiatric Work with Children, Some Present-Day Trends, *The American Journal of Diseases of Children*, July 1932, Vol. 44, pp. 166-175; Prevention of Nervous and Mental Diseases of Children, *The American Journal of Diseases of Children*, 1929, Vol. 37, p. 1260.

THE RHODE ISLAND MEDICAL JOURNAL

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SPECIAL NUMBER

The JOURNAL is indebted to Dr. Charles P. Fitzpatrick of Butler Hospital, for collecting the papers which appear in this special number. The objection which has been expressed to special numbers of a publication intended to interest general practitioners, cannot hold for the subject of Mental Health. As long as the population of our hospitals for mental diseases continues its increase, Mental Health will be a topic of interest, not only to the psychiatrist, but also to the general practitioner, even to the layman, who finally must pay the bill. There also may be an advantage in the unity of a collection of papers dealing with various phases of a single subject, when compared with the scattered interest of a heterogeneous assortment.

MENTAL HEALTH

Those of us who are especially interested in mental disease are gratified that a special number of the JOURNAL is being devoted to this topic. It seems needless to dwell on the prevalence of mental disturbances of a minor and major nature, or to emphasize the social and economic loss resulting from such disturbances. The hospital accommodation necessary to house patients in the United States suffering from major mental disorders is a matter of common knowledge. A ray of hope, however, is present here and there in the picture. The recently developed techniques of treating dementia praecox by insulin shock and artificially induced convulsions

indicates a new emphasis on the medical approach to this problem. Neither of these two methods of treatment supplies the complete answer to the treatment of this disorder. They do, however, indicate that considerable thought is being devoted to the biochemical and physical approach to mental disease, and should be productive of much further work along similar lines.

Another concept which is receiving increased attention in the medical world today is that the individual represents the integrated function of all his organ systems, and that he can not be considered, when he is ill, as merely suffering from disturbed function of one or two systems. Every physical disability has its mental component. Studies and experience have demonstrated that this component cannot be neglected if the best results in treatment are to be achieved.

Conversely, mental disturbances frequently result in physiological dysfunction of various somatic structures. Admittedly, our knowledge of psychosomatic relationships is still limited, but a great opportunity for investigation and original work is open in this field. Investigation along these lines can fortunately be carried on without the aid of an elaborate technical laboratory. Careful observation and accurate recording are all that are necessary. The field is open to all engaged in the practice of medicine.

Dr. Harvey Cushing, an eminent authority, has said that there is often a definite relationship between conditions such as gastric ulcer and the emotional status of the patient. It is well known, also, that spastic and mucous colitis is frequently associated with an emotional maladjustment. The general practitioner is in a particularly fortunate position insofar as the correlation of physical and mental disorder is concerned. He sees the cases early and is in a position to apply remedial measures before the pattern has become too set. It is generally conceded that no matter what treatment of mental disturbances is adopted, the earlier it is begun the more satisfactory are the results.

In view of the strides which have been made forward in the field of mental disease in the past twenty years, and the increasing interest which is being manifested by the profession at large, there is every reason to feel that progress in this particular branch of medicine will continue at a rapid rate.

Memorial Hospital

A Clinical Pathological Conference was held Wednesday, January 12. The first case introduced was a carcinoma of the esophagus, presenting unusual difficulties in diagnosis. The case was presented by Dr. Jacob Greenstein and Dr. John F. Kenney from the medical service. The second case, which was presented by Dr. John F. Kenney and Dr. Thad. Krolocki, was a bacterial endocarditis with presentation of specimens, lantern slides, and charts. These cases were discussed by the various members of the staff.

NOTE: A new projector and microscopic photographic apparatus has been added to the hospital equipment, thus making the various clinical conferences and staff meetings more complete.

Dr. Durtad R. Baronian has received an appointment to the medical service of the Boston City Hospital, starting July 1, 1938.

Woonsocket Hospital

The December meeting of the Woonsocket Hospital Regular Staff was held on Monday, the 13th, with Dr. T. Frank Kennedy presiding. Dr. P. James O'Brien read a paper in the form of a report on "The Stillbirth and Infant Mortality for Woonsocket in 1936 as Compared with Statistics for 1925." A review of a case of perforated ulcer of the stomach was presented by Drs. F. J. King and N. S. Garrison.

On January 10, 1938, the Regular Staff of the Woonsocket Hospital held its annual meeting. The following officers were re-elected:

President: Dr. T. Frank Kennedy

Vice-President: Dr. Henri E. Gauthier

Secretary-Treasurer: Dr. Thomas J. Lalor

Dr. George Crepeau was elected to membership on the staff. A paper was read by Dr. J. T. Roswell on "Neuro-Circulatory Asthenia." The discussion was opened by Dr. William King.

RHODE ISLAND ASSOCIATION OF RECORD LIBRARIANS

The regular monthly meeting of the Rhode Island Record Librarians' Association was held on Tuesday, January 18, 1938, at 3:30 P. M., at the Medical Library, Francis Street, Providence. Dr. Albert H. Miller presented an interesting paper on "The Value of Records".

Dr. Miller spoke of the value of keeping good hospital records, the necessary information that should be incorporated in them, and the various systems that are used in the handling of charts. He cited an instance where, if records had been kept at the time, the patient and doctor would have at a later date benefited very much by the information contained therein. Dr. Miller emphasized the advantages of being able to compile statistics within a short period of time. He also spoke of the value of statistics for a person doing research work. At the conclusion of his paper, Dr. Miller kindly answered questions which were asked by the members. The Meeting adjourned at 5:00 P. M.

Rhode Island Hospital

SCHEDULE FOR FEBRUARY, 1938

Thursday, February 3, 1938

Gyn Staff Meeting, 8:30 P. M.

Friday, February 4, 1938

G. U. Staff Meeting, 7:30 P. M.

Surgical Staff Meeting, 8:30 P. M.

Tuesday, February 8, 1938

Clinical Path. Conference, 12:00 noon

Tuesday, February 22, 1938

Clinical Path. Conference, 12:00 noon

Mondays

Surgical Grand Rounds, 10:00 A. M.

I Surgical Grand Rounds, February 14, 28

II Surgical Grand Rounds, February 7, 21

Thoracic Clinic, 4:30 P. M.

Tuesdays

Gastro-Intestinal Clinic, 9:30 A. M.

Surgical Grand Rounds, 10:00 A. M.

I Surgical Grand Rounds, February 8, 22

II Surgical Grand Rounds, February 1, 15

Wednesdays

Tumor Clinic, 10:00 A. M.

Note: The Skin Clinics have been temporarily discontinued

Thursdays

Orthopedic Grand Rounds, 9:00 A. M.

Thoracic Clinic, 11:30 A. M.

Fridays

Fracture Grand Rounds, 11:00 A. M.

Pediatric Grand Rounds, Feb. 11, 25, 11 A. M.

Saturdays

Neurological Grand Rounds, 9:00 A. M.

Medical Conference, 10:00 A. M.

MEMORABILIA

December 13, 1937

Dr. Walter C. H. Weigner presided at a meeting of the Rhode Island Society for Neurology and Psychiatry, held at the Charles V. Chapin Hospital. Dr. Hugh E. Kiene presented "Insulin Shock Treatment in Schizophrenia." He showed a patient in insulin shock and several remarkable recoveries following this treatment. The subject was discussed by Drs. Fitzpatrick and McDonald.

January 12

Dr. George W. Matteson entertained the Amos Throop Club. Dr. Frank B. Cutts, guest speaker, chose as his subject, "A Discussion of Blood Chemistry." The paper was discussed by Drs. Kingman, William B. Cutts, Brackett, Wells, Ham, and members of the club.

January 13

The regular monthly meeting of the Staff Association of St. Joseph's Hospital was held at the Nurses' Auditorium at 8:30 P. M. Dr. Vincent J. Oddo presented a paper on "Urological Problems." Collation was served.

January 14

Dr. Niles Westcott entertained the William W. Keen Medical Club. The title of his paper was "Traumatic Psychoneuroses." Dr. Russell Bowman was elected a member of the club, increasing the total membership to nineteen.

January 17

The Thirty-four Medical Club met with Dr. Charles Bradley.

January 18

At the regular monthly meeting of the General Staff of the Homeopathic Hospital of Rhode Island, Dr. Samuel Morein read a paper on "The Medical Management of Gastric and Duodenal Ulcers." Luncheon followed.

January 21

Dr. Arthur H. Ruggles entertained the Friday Night Medical Club at Duncan Lodge. He read a paper on "Observations on Insulin Treatment of Schizophrenia."

January 24

Dr. Charles A. McDonald entertained the Providence Medical History Club. His subject was "Medical History of Aneurism."

January 27

The regular quarterly meeting of the Rhode Island Medico-Legal Society was held at the Medi-

cal Library at 5:00 P. M. Honorable Charles A. Walsh, Associate Justice of the Rhode Island Superior Court, addressed the meeting on the subject:—"Psychiatry and Criminal Law." Supper was served following adjournment.

The officers of the American Public Health Association announce that the 67th Annual Meeting will be held in Kansas City, Mo., October 25-28, 1938. Dr. Edwin Henry Schorer, Director of the Kansas City Health Department, has been appointed Chairman of the Local Committee. He will be assisted by a large group of city and state officials and community leaders.

A long list of affiliated organizations meet habitually with the American Public Health Association. They include: The American Association of School Physicians, The Association of Women in Public Health, The Conference of State Laboratory Directors, The Conference of State Sanitary Engineers, The American Association of State Registration Executives, Delta Omega, The International Society of Medical Health Officers. The attendance at the 67th Annual Meeting will exceed 3000 professional public health workers from every State in the Union, Canada, Cuba and Mexico.

AMERICAN BOARD OF INTERNAL MEDICINE

The American Board of Internal Medicine will hold its next written examination on Monday, February 14, 1938, in various centers of the United States and Canada. The Examination will consist of two sessions of three hours each with the morning session held at 9:00 o'clock and the afternoon session at 2:00 o'clock. The candidates who are successful in this written examination will be eligible to take the practical examination which will be held in San Francisco on Friday and Saturday prior to the opening of the Annual Session of the American Medical Association in June, 1938.

The final date for filing applications for this written examination is January 15, 1938. For further particulars and application blanks, address Walter L. Bierring, M.D., Chairman, American Board of Internal Medicine, 1210, 406 Sixth Avenue, Des Moines, Iowa.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next examination (written and review of case histories) for Group B candidates who have filed applications will be held in various cities of the United States and Canada, on Saturday, February 5, 1938. The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in San Francisco, California, on June 13, and 14, 1938, immediately prior to the meeting of the American Medical Association. Applications for admission to the June 1938 Group A examination must be on an official application form and filed in the Secretary's Office before April 1, 1938. For further information and application blanks address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pa.

"THE FOUNDATION PRIZE" OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS, GYNECOLOGISTS AND ABDOMINAL SURGEONS

(1) "The award which shall be known as 'The Foundation Prize' shall consist of \$500.00."

(2) "Eligible contestants shall include only (a) interns, residents, or graduate students in Obstetrics, Gynecology or Abdominal Surgery, and (b) physicians (with an M. D. degree) who are actively practicing or teaching Obstetrics, Gynecology or Abdominal surgery."

(3) "Manuscripts must be presented under a nom-de-plume, which shall in no way indicate the author's identity, to the Secretary of the Association together with a sealed envelope bearing the nom-de-plume and containing a card showing the name and address of the contestant."

(4) "Manuscripts must be limited to 5000 words, and must be typewritten in double-spacing on one side of the sheet. Ample margins should be provided. Illustrations should be limited to such as are required for a clear exposition of the thesis."

(5) "The successful thesis shall become the property of the Association, but this provision shall in no way interfere with publication of the communication in the Journal of the Author's choice. Unsuccessful contributions will be returned promptly to their authors."

(6) "All manuscripts entered in a given year must be in the hands of the Secretary before June 1st."

(7) "The award will be made at the Annual Meetings of the Association, at which time the successful contestant must appear in person to present his contribution as a part of the regular scientific program, in conformity with the rules of the Association. The successful contestant must meet all expenses incident to this presentation."

(8) "The President of the Association shall annually appoint a Committee on Award, under its own regulations, shall determine the successful contestant and shall inform the Secretary of his name and address at least two weeks before the annual meeting."

JAS. R. BLOSS, M. D., *Secretary*.
418 Eleventh Street,
Huntington, W. Va.

RECENT BOOKS

THE MIND OF MAN. By Walter Bromberg, M.D., pp. 307 with 16 illustrations. Cloth, \$3.50. Harper and Brothers, New York and London, 1937.

This attractively written history of the treatment of mental disease is announced as "A work of scientific authority for the layman." The volume, while a serious work, is replete with quotations and anecdotes and the author deserves praise for his clear presentation and the avoidance of technical psychiatric terms. In so comprehensive a work it is unavoidable that the author emphasize such aspects of the history of psychotherapy as he personally thinks are most important. After reviewing the early domination of religion and superstitions in the field of mental treatment, Dr. Bromberg stresses the introduction of suggestion and hypnosis as methods of treatment, and concludes with four chapters on treatment along psychoanalytic lines. There will undoubtedly be differences in opinion as to whether a discussion of psychoanalysis should occupy so important and lengthy a portion of the book. Dr. Bromberg has furnished not only the psychiatrist but also the layman and general medical reader with a work which is both entertaining and informative.

CHARLES BRADLEY, M.D.

WHY WE DO IT. AN ELEMENTARY DISCUSSION OF HUMAN CONDUCT AND RELATED PHYSIOLOGY. By Edward C. Mason, M.D., Ph.D., F.A.C.P., Cloth, \$1.50, St. Louis, The C. V. Mosby Company, 1937.

In this book of 177 pages a teacher of physiology looks at human behavior. Dr. Mason first presents the problem, then discusses development, normal mechanisms, personality types, "sane and insane," and treatment. The endocrine and autonomic nervous systems are not neglected. He covers briefly and somewhat critically the outstanding

problems of mental disease. The psychologist he handles without marked respect, but one is pleased that the physiologist is demanding his own.

This work emphasizes, as expected, the study of the somatic aspect of behavior, as well as the effects of situation, and of the personality type. Brief notes of cases are added for emphasis and clearness.

This book as a whole is an outline and an introduction, and is necessarily very brief. We hope that the author will see fit to continue this into a fuller work.

NILES WESTCOTT, M.D.

THE TECHNIC OF LOCAL ANESTHESIA. By Arthur E. Hertzler, A.M., M.D., Ph.D., LL.D., F.A.C.S. Sixth Edition, pp. 284, with many illustrations, Cloth, \$5.00, The C. V. Mosby Company, St. Louis, 1937.

Local Anaesthesia is a 277 page book, containing numerous excellent illustrations, and describing in brief, lucid detail the neuro-anatomy and technique of local anaesthesia in every operation where local anaesthesia might be of value. It is written in a delightful informal way; it is brief; and it makes interesting, as well as instructive reading.

This book, the sixth edition in 21 years, could only have been written by a surgeon of wide experience. The indications and contra-indications, advantages and disadvantages of local anaesthesia as applied to various surgical procedures as clearly recognized and stated. The underlying neuro-anatomy and the technique are described in simple terms, without confusing detail, but also without important omissions. The author insists on a well planned procedure, and one feels as he reads the text that theory has been brushed aside, and that each problem is viewed from the standpoint of practicability to the surgeon and comfort to the patient.

As a guide to the beginner in surgery, Dr. Hertzler's book should prove invaluable. It is the best short work on this subject I have had the privilege of reading, and I can recommend it highly to any surgeon who does not enjoy the services of an expert regional anaesthetist.

ROBERT R. BALDRIDGE, M.D.

MENTAL THERAPY, STUDIES IN FIFTY CASES. By Louis S. London, M.D., Formerly Passed Assistant Surgeon (R) United States Public Health Service. Two volumes, pp. VIII + 744, with charts and diagrams, Cloth, \$12.50. Covici, Friede, 432 Fourth Avenue, New York, 1937.

In this monumental work, the author outlines the evolution of psycho-therapeutics from Plato to Freud. After introductory chapters on psychoanalysis, the meaning of dreams, if any, and the sexual psychology of the child and of the sexual instinct, he gives in detail the psychoanalysis of fifty cases, grouped as hysterical and anxiety neuroses, occasional neuroses, incipient schizophrenia, cyclic neuroses. London's frequent parenthetical comment on these cases is interesting and enlightening. These volumes are offered as an important reference work for psychologists, neurologists, psychiatrists and general practitioners, who may find the cases presented of inestimable value in their practice.

CONCEPTS AND PROBLEMS OF PSYCHOTHERAPY. By Leland E. Hinsie, M.D., Professor of Clinical Psychiatry, College of Physicians and Surgeons, Columbia University, New York, pp. XV + 199. Cloth, \$2.75. Columbia University Press, New York, 1937.

Today the psychiatrist must be cognizant of current psychotherapeutic theories and practices and must make up his mind how far his research policies should be dominated by any one method and in what classes of clinical material he should focus his attention for the good of his patients. Hinsie does not attempt to provide proof of the validity of any particular school of psychological training. He has made an honest assay of the applications of psychological knowledge to various fundamental problems of psychiatry.

Although the material is oriented in therapy, the author has presented much more. In fact he has given an evaluation of psychiatric methods of study and of current concepts of the mind. His work must be recognized as an attempt to gain a comprehensive view of the facts in a field much too extensive to be exclusively monopolized by one method of investigation. Physicians and students who are making serious efforts to understand the development and applications of psychotherapy, and to get to the roots of the situation, will find this book a welcome guide, formulated from a wide background of experience.

METHODS OF TREATMENT. By Logan Clendening, M.D., Clinical Professor of Medicine, Medical Department of the University of Kansas. Sixth Edition, pp. 875, Cloth, \$10.00. The C. V. Mosby Company, St. Louis, 1937.

The author's justification for this work is very ingeniously explained in the opening sentence in the preface which reads as follows: "The book was planned to furnish an outline of all the methods of treatment in internal medicine." The reviewer feels that the author accomplished all of this admirably. One wonders with amazement, and indeed with gratitude, at the author's ingenuity to cram into one volume of twenty-five chapters so much valuable and useful information. The book serves as a short cut to the busy practitioner, who is ever anxious to find the necessary and authoritative information when he needs it, without having to wade through systems of medicine, special reference books, and voluminous literature. Here in this volume he can obtain the information desired in simple, direct language, briefly and vigorously put.

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In This Number

Stillbirth and Infant Mortality for Woonsocket, R. I. By Dr. James P. O'Brien

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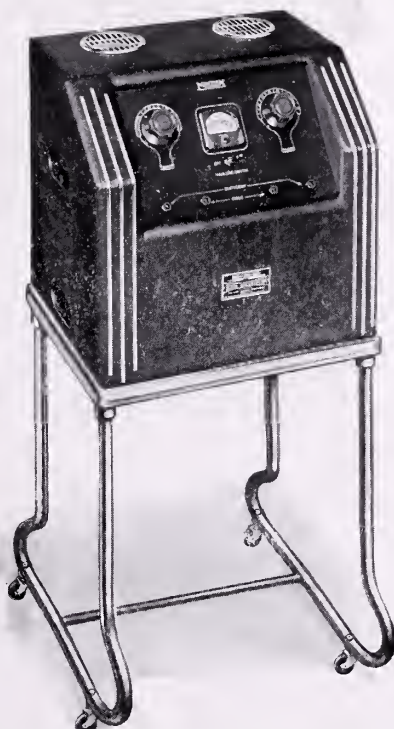
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Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
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Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60*

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BASIC OPERATIONS IN COMMERCIAL CANNING PROCEDURES

I. CLEANSING OPERATIONS

● As reference to a recent text on canning will disclose (1) the details of commercial canning procedures will vary from product to product. There are, however, certain basic operations which are included in practically all canning procedures. In the belief that they may prove of interest, it is our intention to describe in broad detail the nature and purposes of these essential operations.

One of the first and most important steps in commercial canning is the thorough cleansing of the raw food material received at the cannery. The purpose of such an operation is, of course, immediately evident, namely, to remove soil, dirt or other inedible substances which may be present. However, cleaning also serves to reduce substantially the load of spoilage bacteria with which Nature usually endows raw foods.

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Also, in certain canning procedures, operations whose basic functions are not primarily to clean the raw material may also exert a cleansing effect. Thus, the "blanch" or scalding treatment accorded many products serves to clean the food, as does the water spray sometimes applied to foods after the blanch.

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(1) 1937 *Appertizing or The Art of Canning*, A. W. Bitting, The Trade Pressroom, San Francisco. (2) *Preventive Medicine and Hygiene*, M. J. Rosenau, Appleton-Century Co., New York.

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CERTAIN CONDITIONS IN
VOLATILE VASOCONSTRICTOR HAS
PROVED OF PARTICULAR VALUE
A PRELIMINARY REPORT
LOUIS D. SELMAN, M.D.
PHILADELPHIA, PA.
Throat Departments,
St. Vincent's Hospital.

Reprinted from CLINICAL MEDICINE AND SURGERY, Vol. 1, January, 1937, pp. 25-27.

BENZEDRINE IN PARANASAL SINUSITIS
(A Study of 306 Cases)
By J. ALLAN BERTOLET, M.D.
Philadelphia, Pa.

Some five years ago I made the first report on the clinical use of Benzedrine (benzyl methylcarbinamine),¹ which was, at that time, a new vasoconstrictor of proved potency and with the ad-



Fig. 1.—A sagittal section of a normal nose.

characteristic of volatility. In conjunction with the methods of treatment, beneficial results were obtained in 122 cases presenting various types of complications.

Since that report, studies by other investigators^{2, 3, 4, 5} have confirmed these findings and demonstrated further the clinical efficacy of the drug.

When Benzedrine was introduced, it seemed reasonable to suppose that its diffusibility as a vapor, it should produce

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BY S. K. F.

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BENZEDRINE VAPOR IN
CHILDREN

By JOSEPH A. SCARANO, M.D., AND
JOHN F. COPPOLINO, M.D.
Philadelphia.

The disadvantages of the usual method employed in local treatment of upper respiratory infections in infants and children have been noted. The strenuous object of sprays, tampons or "drops" is often so marked that effective treatment is impossible. Moreover, undesirable use of harsh astringents; and result of oil inhalants aspirated in children lipid pneumonia may be noted.

It seemed probable, therefore, that a substance administered in the form of a vapor, and successfully used in the treatment of logical infections in adults, would be more convenient and than liquids for pediatric convenience, it seems the vapor would penetrate

RAPIDITY OF SHRINKAGE AND IMMEDIATE
AND SECONDARY REACTIONS
FOLLOWING LOCAL APPLICATIONS OF
EPHEDRINE AND BENZEDRINE

A Comparative Study

JOSEPH A. SCARANO, M.D.
Philadelphia, Pa.

Reprinted from the New England Journal of Medicine, Vol. 209, No. 21, pp. 1048-1051, Nov. 21, 1932.

THE USE OF BENZYL-METHYL-CARBINAMINE-CARBONATE IN THE TREATMENT OF RHINITIS*

BY HARRY V. BYRNE, M.D.

A NEW drug for the symptomatic treatment of rhinitis has recently been developed. This preparation is a volatile carbonate of benzyl-methyl-carbinamine. The compound is related structurally to both ephedrine and epinephrine with somewhat similar pharmacological and physiological properties. Hartung and Munch¹ and Pines² et al³ report a marked rise in the blood pressure following the administration of the drug. The latter investigators state that they have found coincident to the rise in blood pressure an increase in the secretion of the

Reprinted from the Archives of Otolaryngology, May 1935, Vol. 21, pp. 583-590.
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A NEW DRUG FOR TREATMENT OF THE EUSTACHIAN TUBE AND MIDDLE EAR, WITH AN APPARATUS FOR ITS USE

EARL TERRY WOOD, M.D., NEWARK, N. J.

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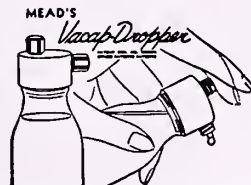
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THE STILLBIRTH AND INFANT MORTALITY FOR WOONSOCKET, R. I. IN 1936

Compared with Statistics for 1925

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DIRECTOR, NORTHERN DISTRICT HEALTH UNIT
70 NORTH MAIN STREET, WOONSOCKET.

In 1936 there were 826 new born babies in Woonsocket, R. I. Of this number there were forty stillbirths and fifty-six infant deaths. This gives a stillbirth rate of 4.8 per one hundred live births, an infant death rate of 67.7 per 1,000 live births, of which forty-one deaths or 73.2 percent were neonatal deaths. These rates are higher by direct comparison with the United States Registration Area and the Maternal and Child mortality of the State of Rhode Island.

The present study was made for the purpose of :
1. Obtaining information regarding fetal and maternal conditions associated with fetal mortality.
2. To ascertain if possible, the varied causes associated with infant mortality. 3. To attempt to compare statistics obtainable at the present time with those obtained in a similar survey made in Woonsocket, R. I. in 1925.

The study in 1925¹ and the present survey were made through the use of birth and death records and through home interviews of the mothers of the children. All histories were rechecked for accuracy.

As very few cases have come to autopsy the immediate cause of death as shown upon the death certificate was accepted in all cases as directly responsible for the loss of infant life.

From Table I, we may note a decrease in the number of stillbirths and an improvement in the number of cases reported as unknown. Eleven or 27.5 percent of the total cases were reported as cause unknown in 1936, compared with 19 cases or 43.2 percent reported in 1925. This is encouraging. Better prenatal care is emphasized by the lowered mortality in albuminuria of the mother, where there is a definite improvement.

Read before the staff at Woonsocket Hospital, December 13, 1937. From the Rhode Island State Department of Public Health.

TABLE I

CAUSES OF STILLBORN DEATHS IN WOONSOCKET FOR 1925 AND 1936

Cause	1925		1936	
	Number	Percent	Number	Percent
All Causes	44	100.0	40	100.0
Unknown	19	43.2	11	27.5
Asphyxia	5	13.6	10	25.0
Birth Injury	1	2.3	6	15.0
Premature	5	11.4	.....	.....
Dystocia	2	4.5	.....	.....
Albuminuria of Mother	5	11.4	2	5.0
All other causes	6	13.6	2	5.0
Congenital malformation .....	.....	.....	7	17.5
Infection of Mother .....	.....	.....	2	5.0

Birth injuries, which include dystocia, prolonged labor and pelvic abnormalities, show an increase. There is an increase in congenital malformations, including hydrocephalus, anencephalus, spina bifida and other malformations. Asphyxia, which includes separation of the placenta, abnormalities of the cord and other causes, has also increased. The two maternal infections were pneumonia and chronic tuberculosis.

TABLE II

CAUSES OF NEONATAL DEATHS IN WOONSOCKET IN 1925 AND 1936

Cause of Death	1925		1936	
	Number	Percent	Number	Percent
All Causes	55	100.0	*†40	100.0
Premature Birth (159)	21	38.2	17	42.5
Congenital Debility (158)	8	14.5	.....	.....
Birth Injuries (160)	5	9.1	10	25.0
Malformations (157)	2	3.6	7	17.5
Respiratory Diseases (107)	6	10.9	2	5.0
Gastrointestinal Diseases (119)	4	7.3	2	5.0
Infections .....	.....	.....	.....	.....
Other Causes (161)	9	16.4	2	5.0

*Includes 3 deaths at Woonsocket Hospital, out of city residence.

†To this total if we add 3 deaths from congenital malformations, 7 deaths from respiratory diseases, 2 deaths from gastrointestinal diseases and 2 infections in children between 1 month and 1 year, we have the total infant deaths for 1936.

Table II shows a definite decrease in the loss of life from neonatal deaths. A comparison of forty neonatal deaths in 1936 compared with fifty-five in 1925, shows that there is a marked improvement in the intervening years as a result of the work of all persons interested in infant welfare.

Premature births show a very slight increase, congenital malformations and birth injuries are also increased. They may be explained, no doubt, by a difference in opinion regarding the classification of the various records.

TABLE III

AGE AND CAUSE OF DEATH—NEONATAL DEATHS IN WOONSOCKET FOR 1925

	All Causes	Prematurity	Congenital Debility	Injuries at Birth	Malformations	Respiratory Diseases	Gastric and Intestinal Diseases	All Others
Total	55	21	8	5	2	6	4	9
Less than 15 minutes	6	2		1				3
15 min., less than 30								
30 min., less than 1 hour	1				1			
1 hour, less than 2	9	8	1					
1 day, less than 2	4	3	1					
2 days, less than 3	6	3	1	1			1	
3 days, less than 7	10	1	1	2	1	1	1	3
1 week, less than 2	7	2		1		2	1	1
2 weeks, less than 1 mo.	12	2	4			3	1	2

TABLE IV

AGE AND CAUSE OF DEATH—NEONATAL AND INFANT DEATHS IN WOONSOCKET FOR 1936

	All Causes	Prematurity	Congenital Debility	Injuries at Birth	Malformations	Respiratory Diseases	Gastric and Intestinal Diseases	All Others
Less than 15 minutes	5	2		2				1
15 min., less than 30	3	1			1			1
30 min., less than 1 hour	3	1		1	1			
1 hour, less than 24	9	7		1	1			
1 day, less than 2	7	3		2	2			
2 days, less than 3	2	2						
3 days, less than 7	6	1		3	2			
1 week, less than 2	2			1		1		
2 weeks, less than 1 mo.	2					1	1	
1 month, less than 2	1						1	
Neonatal Deaths	40	17		10	7	2	2	2
2 months, less than 3	4				1	2		1
3 months, less than 6	7				2	4	1	
6 months, less than 1 yr.	7					2	2	3
Total Infant Deaths	58	17		10	10	10	5	6

Improvement in deaths from respiratory diseases and gastrointestinal diseases point definitely to improvement in feeding and in early infant care. It shows better cooperation between family, physician and nurse. It reflects the effect of early health education.

It can be properly assumed that most of the infant deaths occur during the first month of life, and that infant mortality is considered one of the most sensitive barometers by which measurements of the health of a community may be made. Anything that is done to decrease infant mortality must be done during the first month or certainly during the first year of infant life.

TABLE V

A COMPARISON OF THE INFANT MORTALITY BY CAUSE IN THE 1921 BIRTH REGISTRATION AREA OF THE UNITED STATES, 1931 TO 1935 INCLUSIVE, WITH WOONSOCKET, 1936².

Cause of Death	Deaths Under 1 Yr. per 1,000 Live Births						Woonsocket
	1931	1932	1933	1934	1935	1936	
All Causes	60.0	55.8	54.3	55.8	51.6	70.2	
Natal and Prenatal Causes ¹	32.2	31.2	31.3	31.4	29.5	44.8	
Gastrointestinal Dis. ²	6.6	5.2	5.0	5.5	4.3	6.1	
Respiratory Diseases ³	11.0	9.9	9.0	9.3	8.8	12.1	
Epidemic and other communicable dis. ⁴	2.7	2.7	2.3	3.0	2.4		7.2
External Causes ⁵	0.7	0.9	0.9	1.0	1.0		
All other causes ⁶	4.5	4.1	4.0	4.0	4.1		
Unknown or ill-defined Diseases	2.1	1.9	1.8	1.7	1.6		

1. Natal and prenatal causes include: Premature birth, congenital malformations, injury at birth, congenital debility, other diseases of early infancy, syphilis, tetanus.

2. Gastrointestinal diseases include: Diarrhea and enteritis, diseases of stomach, dysentery.

3. Respiratory diseases include: Bronchitis, bronchopneumonia, lobar and unspecified pneumonia, influenza.

4. Epidemic and other communicable diseases include: Measles, scarlet fever, whooping cough, diphtheria, erysipelas, epidemic cerebrospinal meningitis, tuberculosis of the respiratory system, tuberculosis of the meninges and the central nervous system, other forms of tuberculosis.

5. All other causes include: Convulsions, intestinal obstruction, all other causes of death.

A comparison of Table III and Table IV, shows that half of the neonatal deaths in 1936 occurred during the first 24 hours. This would account for the early premature infants and the severe birth injuries that no doubt could not survive even under the best of circumstances. The other fifty percent of neonatal deaths are graded through the various causes in about the same proportion with regard to duration of life.

Eighteen cases of infant deaths occurred between one month and one year of age, and it should be noted that in this group we find that eight infants died from respiratory diseases, three from gastrointestinal diseases and three congenital malformations.

In 1925, sixteen neonatal cases died during the first twenty-four hours and of these, ten babies died from prematurity. However, as the age increased, the number of deaths from prematurity decreased, as can be expected. Respiratory disease was the cause of death of six children, gastric and intestinal diseases caused four deaths. The effect of improved care is reflected by a review of the 1936 statistics.

Woonsocket presents an increase of 14.7 deaths or 70.2 deaths per 1,000 live births³ compared with a five year average of 55.5 deaths per 1,000 live births for the United States Registration Area from 1931 to 1935 inclusive.

The State of Rhode Island averaged forty-six infant deaths per 1,000 live births in 1936⁴.

MATERNAL DEATHS

The maternal death rate in Woonsocket, has decreased from 1930 to 1935, but in 1936, because of certain accidents at birth, there has been considerable increase. It is encouraging to note that during 1936, there were 352 births or 42.3 percent that were delivered either in Woonsocket Hospital or in a hospital in Providence, Pawtucket or Central Falls. This one fact should do much to help lower the maternal mortality and aid in helping Woonsocket mothers to realize what good obstetrical care means.

TABLE VI
MATERNAL DEATHS (3) OF WOONSOCKET
FOR 1930 TO 1936 INCLUSIVE

Year	Live Births	Maternal Deaths	Death Rate
1930	931	6	6.4
1931	822	6	7.3
1932	821	6	7.3
1933	755	6	7.9
1934	777	3	3.9
1935	841	2	2.4
1936	826	7	8.5

A new addition of fifteen beds to Woonsocket Hospital as a maternity wing for those who constitute the low wage level group should also mean improvement. There were 474 births, 57.7 percent, delivered at home.

As certain causes of maternal deaths play an interesting role in the deaths of Woonsocket mothers, it is of importance to make a special study as to age of mother, cause of death and place of delivery.

TABLE VII
CAUSES OF MATERNAL DEATHS IN WOONSOCKET (3) FOR 1936, DISTRIBUTED AS TO CAUSE OF DEATH, AGE OF MOTHER, TIME AND PLACE OF DEATH

Month	Cause of Death	Age of Mother	Home or Hospital
March	Shock, following Cæsarian birth (14a)	36	Hospital
April	Puerperal sepsis (145) Phlebitis (148)	35	Hospital
June	Puerperal hemorrhage (144) Tumor, abdominalis	45	Hospital
July	Puerperal hemorrhage (144) Placenta Previa	27	Hospital
August	Ectopic pregnancy (142) Shock-hemorrhage	32	Hospital
October	Hyperthroiditis (66) 7½ months pregnant	25	Hospital
December	Puerperal sepsis (145) Placenta Previa	27	Hospital

One case of acute cardiac failure is included as a seven and a half months pregnancy following the belief that pregnancy increases the incidence of cardiac failure in such cases. Three of the deaths were from hemorrhage, following conditions that complicated delivery. There were two deaths from puerperal sepsis, both hospital cases.

These accidents again forcibly remind us of the need of Health Education in Woonsocket, and need of better instructions to Woonsocket mothers as to good obstetrics. It is impossible for the physicians to do their best work when it is a known fact that many pregnant mothers consult their physician in the eight month or more often not until labor has started. These conditions must be overcome if we are to make satisfactory headway.

In the Study of 1925, it was noted "Two mothers of babies included in this study died at childbirth. One mother had convulsions and kidney complications at the time of confinement and the infant lived only one day. The other mother died of convulsions and uremic poisoning, giving birth to stillborn twins. As has previously been stated, these deaths might have been prevented, had adequate prenatal care been given."

A comparison of United States birth registration area statistics for five successive years with that of Woonsocket, for 1936 shows a five year average of

61.3 maternal deaths per 10,000 live births as compared with a five year average of Woonsocket, covering the same years with 57.6 maternal deaths per 10,000 live births. It is to be regretted that this improvement should be marred by an increase in the 1936 maternal mortality to 85 maternal deaths per 10,000 live births.

PRENATAL CARE

Many of the mothers in Woonsocket, do not seem to understand or attempt to realize the importance of adequate prenatal care. They often fail to realize the relationship between good prenatal care and its association with still birth and infant mortality.

In 1925, the cause of this neglect was laid to the large number of mothers of foreign birth in that there was considerable difficulty in urging them to understand proper prenatal care and to turn from old world ideas and customs of childbirth.

This makes a marked contrast to our present records. Examination of the nursing histories show that all mothers state that they have received prenatal care with three exceptions; all mothers gave histories of discontinuance of work before the sixth month of pregnancy.

No statistics are available to show at what period during pregnancy instruction is given, but it is felt by all authorities that the earlier instruction and care is given, the better chances the mother has for a successful termination of pregnancy.

From the records collected no Wassermann reactions are reported. This is unfortunate for here again we might have some clue that would be of aid to discover the causes for the number of stillbirths.

In the past the practice of taking a Wassermann on all pregnant women was not accepted as necessary, but at this date, with knowledge of the increase in the number of cases of syphilis and its effects upon the childbearing woman, it is an accepted policy that pregnant women should have a Wassermann, and that if it is positive, immediate treatment should be instituted.

However, it is felt that there is still a great need for education of the childbearing woman, in proper adequate prenatal care. Exercise, diet, proper clothing, refrain from long auto rides, surf bathing, dancing and other habits of our modern mothers are but a few of the causes for the precipitation in early pregnancy. It is unfortunate that the young pregnant women cannot, and in many cases will not be guided by the advice of her family physician.

In 1925, records showed that 33 mothers received no instruction whatever, and 61 mothers received advice from their physician.

Table VIII shows the age, nativity of mothers of stillborns, in Woonsocket, in 1925 compared with 1936.

TABLE VIII
AGE OF MOTHERS AT BIRTH, AND NATIONALITY OF MOTHERS—STILLBIRTHS IN
WOONSOCKET FOR 1925 AND 1936

	1925	1936
Under 20	2	3
20-29	17	17
30-39	18	14
40 or over	7	6
	44	40
Native:		
Under 20	0	1
20-29	3	13
30-39	2	5
40 or over	1	3
	6	22
Native-Foreign Born:		
Under 20	2	2
20-29	7	3
30-39	7	5
40 or over	1	3
	17	13
Foreign Born:		
Under 20	0	
20-29	7	1
30-39	9	4
40 or over	5	
	21	5

It should be noted that 1936 was almost the reverse of 1925, in that most of the births are of native born women or native-foreign born parentage. The table also shows that most of the stillborn children were in women between the ages of 20 and 29 years of age.

TABLE IX
ORDER OF PREGNANCIES ENDING IN
STILLBIRTHS FOR 1925 AND 1936

	1925	1936
First	14	16
Second	5	9
Third	3	3
Fourth	8	2
Fifth	3	2
Sixth	1	2
Over six	10	6
	44	40

Most of the stillbirths occurred in both studies during the first and second pregnancies. This is to be expected because of the lack of sufficient knowledge of the young wife. It is in this period progress must be made, and the extensive work carried out

in child hygiene by the United States Government, State and Local Medical societies, must manifest itself in this group.

Statistics show that the average time spent in bed during the postnatal period is 10 days.

Very little difference is noted in the mortality of stillbirth or infants according to sex for either 1925 or 1936. The greatest number of deaths occur in male children.

Economics

No attempt was made to correlate the low income group and the housing situation in Woonsocket, with the stillbirths and infant deaths. Strikes, low wages, failure to accept certain approved standards of living, unsettled labor conditions, poor housing, inadequate sunshine and ventilation in certain sections of the city, must receive proper attention. Statistics of such matters are difficult to obtain and even when obtained, the personal opinion of the investigator and the attitude of the family must be considered and at times are of very little or no practical value. Recent studies of relief groups show that the group as a whole contains a large number of persons with chronic illnesses or physical defects and who are susceptible to frequent attacks of illness.

A recent investigation of infant mortality³ shows that 168 out of 1,000 babies born alive in families with a family income of less than \$500 per year, died within a year. This rate decreased according to income, but shows that when the income was \$3,000 per year or over, only 30 infants died per 1,000 live births. These figures are striking and could easily be applied to the statistics in Woonsocket.

Investigation of the United States Children's Bureau⁴ has shown in infants under 1 year, a comparison of families whose income is \$1,250 per year when compared to families whose income is \$450 per year, that the mortality from gastro enteritis is seven times greater and deaths from respiratory diseases, five times greater in the second group, compared with the first.

Comment

Bundensun and his associates⁷ in the recent study of infant mortality in Chicago give certain factors which they feel contribute greatly to infant deaths. They mention maternal complications, inadequate neonatal care and prematurity as some of the causes that should be considered. They state that early

diagnosis and treatment of maternal complications are important to reduce the neonatal deaths. In their studies cerebral hemorrhage was the main cause of death when autopsies were performed compared with premature birth as the leading cause where autopsy was not performed. Emphasis is placed upon prompt attempts to resuscitate asphyxiated infants and adequate attention including the incubator for the premature child. They also consider the possibility of the relationship of better obstetrics to the administration of large amounts of vitamins B and D and Dicalcium phosphate.

It is evident that parents must be encouraged to develop a better understanding of the health needs of their children, and to seek better care for the expectant mother early in pregnancy. To develop a friendly feeling toward the family physician and to follow his directions carefully. The trend of the young married woman who finds herself pregnant to attempt to keep up with the rest of the "crowd" and to join in all forms of sports in order that she will not appear to be handicapped to her friends is to be regretted.

A more sane approach to motherhood and a proper normal approach to the termination of pregnancy is to be advocated. Fear of delivery and attempts at abortion because of present living conditions, and our present mode of living have much to do with our present high rate of stillbirth and infant mortality.

A definite educational program conducted, organized and set forth by the Woonsocket Medical Society, would do much to improve the present knowledge of our young mothers in what good obstetrics consist of. Advocation of medical care; early treatment in abnormal conditions, a Wassermann in every case of pregnancy, are but a few ideas that would work for the betterment of the obstetrical program in Woonsocket.

REFERENCES

1. Sarah I. Morse, A.M. Stillbirths and Neonatal Deaths in Woonsocket, Rhode Island in 1925.
2. Children's Bureau, U. S. Department of Labor, June 25, 1937.
3. James P. O'Brien, M.D. Survey of Woonsocket, R. I., 1936.
4. United States Bureau of Census, February 25, 1937.
5. Infant and Maternal Mortality in Denver. Journal Pediatrics 719-726 (1932).
6. Causal Factors in Infant Mortality. U. S. Children's Bureau Bulletin No. 142, 1925.
7. Bundensun and Associates. Factors responsible for failure further to reduce infant mortality. Journal A. M. A. 337-343, July 31, 1937.



THE RHODE ISLAND MEDICAL JOURNAL

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NO PHYSICIAN ON THE HOSPITAL BOARD OF TRUSTEES?

In looking over the hospital field, we are surprised to find how many Boards of Trustees fail to have the physicians of the community represented. Is this an oversight or does the average board have some definite opposition to such representation? Is it felt that the physician lacks the necessary business acumen or may it be a fear that he will dominate the board and over emphasize the medical side of every problem?

True, the physician takes a different viewpoint from the average business man because his training is different and his business is different. He necessarily furnishes services and materials to people with no credit standing and he still furnishes these services with full knowledge that payment will never be forthcoming. But at the same time, he develops a profound knowledge of the medical needs of his community and a full realization of his obligations to his less fortunate fellowman.

A recent article bears the caption "In the Trustees lie our Strength." We believe that it is equally

true that in our professional staff lies our strength. If the strength of the hospital lies in the two bodies, and we believe it does, then why shouldn't the Board of Trustees draw additional strength by making one or more members of the medical profession also members of the Board of Trustees?

Gone is the day when hospital trusteeship was chiefly a mark of distinction or an honor conferred upon the chosen few, a part that exacted little but gave much in social prestige and civic authority. The awakening of social responsibility is transferring hospital stewardship from an empty gesture to a definite job. In its ultimate realization lies the hope of the voluntary hospital. The result is an institution to which a sick individual may entrust himself with full assurance that nothing known to modern medical science will be left undone in the effort to safeguard his health and life.

The duties and responsibilities of the governing board of the hospital was defined by the American Hospital Association in 1924 as follows:

1. to determine the policies of the institution with relation to the community needs;
2. to see that proper professional standards are maintained in the care of the sick;
3. to coordinate the professional interests of the hospital with the administrative, financial and community needs;
4. to direct the administrative personnel of the hospital in order to carry out the policies and
5. to provide adequate financing both as to securing income and as to enforcing businesslike control of expenditure.

It would seem imperative that the members of the board upon whom such diverse duties fall should be chosen very carefully with the definite aim in view that any new member invited to join a board must possess characteristics or the type of mind which will be of value to the other members in the performance of these duties and responsibilities.

We believe that any well trained physician possesses these characteristics and would be of enormous value to a board in helping to formulate its policies and discharge its obligations to the community. We believe that while the staff should be represented by one or more physicians, the number should be kept small enough to preserve a normal balance in this body; that the physician or physicians chosen must not be members of the active staff, to prevent the possibility of having or being accused of having any personal axe to grind. To

fulfill this duty, he should be a physician who has had long active service that he may be well acquainted with the needs of the staff and the community and with the aims of the body he represents. He should make the ideal liaison officer between these bodies and be able to interpret the aims, needs and ideals of the staff to the management. Long experience as an active physician will enable him to discard the useless and choose the useful. He will give the staff a feeling of security, knowing that he has an intimate knowledge of their problems and sympathy for their aims, and will still be far enough removed from the actual activities to evaluate them dispassionately.

Can anyone suggest a better balanced Board of Trustees than a board comprised of ten or twelve successful business men, two physicians, an engineer, an architect, a real estate expert, a clergyman, an educator, a lawyer, and an expert accountant, all socially minded and willing and able to make a definite job of running a hospital?

SPECIALIZATION AND THE HOSPITAL

An ever increasing problem in the present state of specialization in medicine is that of the specialist treating conditions that do not properly fall within the field of his training. Examples of this are seen daily. It is impossible in many instances to draw sharp boundaries beyond which one should not go, but in many the limits are obviously and, frequently, disastrously over-reached.

The most pronounced offenders in this particular generally fall into one of two groups. The first group consists of those egotists who feel themselves capable of treating diseases in which they have had little or no preparation. It is a regrettable circumstance due to an all too frequent fallacy in the nature of man. In the present state of disorganization in medicine there is no satisfactory method of control. An appeal can only be made to conscience, which, unfortunately, tends to be present in inverse proportion to the severity of one's misdeeds. In the second group, generally younger men, are those whose practices are yet small and who feel the economic necessity of retaining patients that might better be treated by others. This condition is unfortunate for the doctor and for the patient. The doctor loses prestige in his profession and the patient loses the advantages of intelligent treatment.

Under the present system of medical economics, if it is a system, many of these who are dependent on their practice for financial support cannot remain strictly within their specialty and survive. Much of this could be obviated if doctors were paid for the large amount of work they do in charitable hospitals. Today much is being done and said for improving the standards of living. For people who are themselves unable to pay, moneys are provided for nearly all the necessities of life, including medicines and nursing care, and frequently for unnecessary luxuries. It is rare indeed that any money is provided for the doctor's attentions to the indigent sick within or outside the hospital.

It is becoming more and more apparent that it will be imperative for the doctor to be paid for his hospital work if the standards of non-academic medicine are to be maintained at a satisfactory level. He is so rushed with charity work along with his efforts to make a satisfactory living that he is unable to give his best to either endeavor. Already many capable young men are taking salaried positions with insurance companies, industrial firms and special institutions. They do this not so much because the work itself appeals to them but rather because they are assured of a livelihood without having to spread themselves thinly in unfamiliar fields at the start and to be too busy to be thorough when they are older.

If hospital services were headed by well-chosen, reasonably paid men, full time in some instances, part time in others, with lesser paid part time assistants, it would seem that the hospitals would be more efficiently run, the patient better served and the doctor freer to practice his profession without pinching so much for the elusive dollar. The saving made by more efficient management might well pay a good portion of the doctors' salaries. At the same time, if the problem were approached sincerely by those concerned, the destructive hand of politics could still be kept out of medicine.

Old News

Those who have dissected or inspected many bodies, have at least learned to doubt; when others, who are ignorant of anatomy and do not take the trouble to attend to it, are in no doubt at all.

Morgagni in "De sedibus et causis morborum," 1761, cited by Major in "Classic Descriptions of Disease."

RHODE ISLAND HOSPITAL

Clinical-Pathologic Conference

Tuesday, October 26, 1937

CASE PRESENTED BY

DR. BANICE FEINBERG

History: A nine months old Portuguese female infant was admitted to the pediatric service of the Rhode Island Hospital May 5, 1937 with failure to gain weight as the chief complaint.

The baby was born at home and weighed approximately 6¾ lbs. at birth. It was breast fed for three or four days and because of insufficient supply placed on an SMA feeding of 3 oz. every three hours, on which it has continued up to recently. It was never given cod liver oil. Has had about 1 oz. orange juice daily. The baby weighed fourteen lbs. at three months and still weighs the same. It always had regurgitated slightly after feedings. Lately the stools have been loose three or four times a day. Nose has "run all winter." "Running ear" from four to seven months of age.

Family History: Father and mother alive and well.

No other pregnancies. No history of tuberculosis.

Physical Examination: Poorly nourished female infant. Head relatively large in proportion to body. Anterior fontanelle wider than normal. Sutures slightly separated. Face dusky, not cyanotic. No craniotabes. Eyes negative. Fundi negative. Ears—no discharge. Drums normal in appearance. Throat was injected. Posterior cervical and occipital lymph nodes enlarged. Chest negative save for moderate degree of beading of ribs, rachitic rosary. Heart negative. Spleen quite large and firm, lower pole extending down to level of umbilicus. Extremities negative. No rigidity of muscles of neck or extremities. No Chvostek, Trousseau or peroneal sign. There was a fine maculo-erythematous eruption over neck, shoulders and back.

Laboratory Data: Hemoglobin 76% 12.8 gms., Red Blood Cells 4,390,000 Anisocytosis 2 plus, Poikilocytosis 1 plus, Hypochromia 2 plus, Normoblasts 0. White Blood Cells 7,850, Polymorphonuclears 56, Lymphocytes 32, Large Mononuclears 12, Eosinophiles 0, Basophiles 0. Urine negative save for 1 plus albumen.

Blood Wassermann negative. Hinton positive. The following morning temperature rose to 108 F. Patient cyanotic. Did not respond to oxygen

or other therapy and died twenty-four hours after admission.

Additional Laboratory data: Lumbar puncture and splenic puncture ante mortem—Spinal fluid negative. No foam cells found on smear of splenic puncture.

Discharge Note: Malnourished female Portuguese infant nine months of age with hepato-splenomegaly and negative blood findings. Admitted in terminal state of a chronic disease.

Discussion

DR. HAROLD G. CALDER: "I have been asked to discuss this case from the standpoint of diagnosis.

The child died apparently from some terminal infection—probably bronchopneumonia, but he had a chronic disease extending over a period of 3 to 6 months. This was characterized by failure to gain weight, poor appetite, digestive disturbances and respiratory infections. The most striking feature is the enormous spleen and the differential diagnosis must consider the various causes of splenomegaly in infancy.

Chronic infections, especially tuberculosis and syphilis may cause an enlargement but never to this extent; nor are the other signs of these diseases present.

The various blood diseases, including nutritional (Von Jaksch) anemia, hemolytic anemia, leucemia are ruled out by the blood examination which shows only a mild secondary anemia.

Banti's disease may start in infancy. It is usually associated with vomiting of blood and if this does not cause death, the disease is quite chronic and lasts for years. It could not have the rapid downward course shown in this patient.

New growths of the spleen are possible but they are extremely rare. They would be expected to cause great loss of weight and cachexia rather than the extreme general weakness without loss of weight — which this case manifested.

We come next to the diseases characterized by disturbances of lipid metabolism, in which lipid or fatty material is deposited and stored in the cells of the body.

Gaucher's disease causes an enormous spleen, but it also causes bony changes and is very chronic. Patients live with it for many years and it does not cause death of itself.

Xanthomatosis also causes a large spleen but the changes in the bones, especially the skull, are more

noticeable. It occurs in childhood rather than infancy.

Niemann — Pick's disease is the third of this group. It occurs only in infancy. The patients are apparently healthy for a while — usually the first six months of life — when the appetite is lost and gains in weight stop. The beginning is quite insidious. Respiratory infections occur and general weakness becomes greater and greater. Examination shows a much enlarged spleen and liver. There may be also bony changes, a cherry red spot in the retina of the eye, and skin eruptions. The disease is always fatal and the course usually about six months. Death is preceded by some terminal infection. A positive diagnosis may be made by a biopsy of the sternal bone marrow, or by splenic puncture; and the demonstration of cells containing lipid deposits.

In this case, the course is so typical that, with the other causes of splenomegaly ruled out, it is possible, even without a positive biopsy, to make a diagnosis of Niemann-Pick's diseases."

Postmortem Findings

DR. ROBERT J. WILLIAMS: "Externally the body of the female infant was well developed but poorly nourished, measured 65 cm. in length and appeared to be 10 or 12 months in age. There were a few small palpable, discrete, firm nodes in the neck. When the peritoneal cavity was opened, the liver was seen to extend 6 cm. below the costal margin in the right mid-clavicular line and the inferior tip of the spleen extended to within 1.5 cm. of the crest of the ileum.

The organs of interest grossly are the spleen and liver, which we have here.

The spleen weighs 120 grams. The average weight of the spleen in a nine months old infant is 20 grams, so that the spleen in this case is at least six times the normal size. The spleen is large and firm and on section, shows a peculiar gray cast after the formalin fixation. The Malpighian corpuscles are not made out.

The liver weighs 550 grams — as compared to the average of 250 grams in a nine months old infant. It is large, pale, smooth and has a gray-yellow color. Cut surface bulges lobular markings.

The microscopic section of the spleen, stained with hematoxylin and eosin shows a very characteristic picture. There is diffuse and massive infiltration of the pulp cords by large mononuclear cells

obliterating the sinusoids for the greater part. Only here and there are intact compressed sinusoids containing erythrocytes and lined by flattened endothelium. The follicles are small and in places, their central portion is occupied by the peculiar large mononuclear cells. Nowhere is there any suggestion of alveolar formation by these cells. The large mononuclear cells are round to polygonal in shape, average fifteen to thirty microns in diameter. The cytoplasm is minutely finely vacuolated, giving the cell a foamy appearance. The nucleus is round vesicular, nine to twelve microns in diameter, has a delicate nuclear membrane and fine dust-like scatterer chromatin particles. The cells usually contain only one nucleus, occasionally there are two to three nuclei. These cells have been termed lipid-phages.

The section of liver shows the liver cells to be swollen, compressing the sinusoids and the cytoplasm is filled with minute fine vacuoles. A few lipidphages are present between the liver cords.

Sections of lung show the alveolar and bronchial spaces to be filled with the lipidphages and also the interstitial tissue is slightly infiltrated.

In addition, sections of lymphnode, bone marrow, thymus show more or less infiltration by the lipidphages and the ganglion cells of the brain show a minutely finely vacuolated cytoplasm.

The above findings are quite characteristic of "Niemann-Pick's Disease," Essential Lipoid Histiocytosis.

Review of Literature

DR. STANLEY FREEDMAN: "In 1914 Niemann of Berlin, Germany, described for the first time a case which he labeled "An Unknown Disease Picture." This case had marked pallor, enlargement of the liver and spleen, abdominal distention and ascites. Its course was progressive and it terminated fatally in a few weeks.

A few years later Pick, also of Germany, undertook a systematic study not only of the condition described of Niemann, but also of a number of related diseases, all of which have a common feature — namely a disturbance in lipid metabolism. These diseases are now known as the Xanthomatoses. As a result of further observations, and as a result of the discovery of more cases, the classical description which Niemann gave in 1914 has now emerged into a definite entity which is known as Niemann-Pick's disease. It begins in the first few months of life. It is congenital and malilial. It terminates

fatally before the child is two years old. Knowing the age at which it strikes it could be diagnosed almost at its incipency.

In spite of the extensive studies recently made on this subject, little has been added to Niemann's original description. He even described the so-called foam cells which you saw on the slides of our case. The substance in these foam cells is now known to consist of cholesterol and phosphatids.

The original controversy as to whether the disease represents a disturbed lipid metabolism, or is neoplastic in nature, still exists.

Originally also the disease was thought to exist only in children of the Jewish race. This is not so, as some of the reported cases occurred in English, Irish and other nationalities. The preponderance of cases, of which sixteen had been reported up to 1932, are unmistakably in Jewish children."

RHODE ISLAND MEDICAL SOCIETY

Meeting of the Council

The regular meeting of the Council was held on Jan. 20, 1938 at the Medical Library, and was called to order by the President, Dr. Walter C. Rocheleau, at 4 P. M.

There were present Doctors Rocheleau, Mowry, Wells, Hammond, Partridge, Donley, Young, Miller, Gormly, Arthur Jones, Holt, and DeWolf. It was voted to omit the reading of the minutes of the Council meeting held Nov. 19, 1937 since it had already been published.

Dr. Mowry then presented the annual budget for 1938, and on motion by Dr. Hammond, seconded by Dr. Partridge, it was voted to accept the report and place it on file. Dr. Mowry read the annual financial report of the Rhode Island Medical Journal for 1937, and on motion made and seconded, it was received and placed on file.

Resignation of Dr. James O'Hear, Jr. was read by Dr. Mowry, and it was voted to accept same. The following Fellows were placed on the retired list after same was duly moved and seconded: Dr. D. F. Gray, Dr. M. B. Milan and Dr. J. F. Hawkins.

Dr. Virgilio M. Bertone's application for reinstatement was presented, and it was voted that he be reinstated after paying four years dues, and dues for the coming year. It was moved and seconded that Dr. Fenwick be dropped for non-payment of dues.

On motion by Dr. Miller, seconded by Dr. Donley, it was voted that we not join the New England Council. Dr. Miller spoke on the state of the Rhode Island Medical Journal, and made the following motion:

"1st. That the Council recommend that a committee of the House of Delegates consider the question of the expense of the annual dinner, making a charge for the annual dinner to those who consume it, and a corresponding reduction in the annual dues.

2nd. That the sum of \$984.00, this being \$2.00 for each of the 492 members, be appropriated for support of the Medical Journal!"

The motion was amended that a committee be appointed, Dr. Miller being a member, to study the motion and report back to the Council as soon as possible.

Adjourned,

Respectfully submitted,

GUY W. WELLS, M.D.,

Secretary

Meeting of the House of Delegates

The regular meeting of the House of Delegates was held Jan. 20, 1938 at the Medical Library, and was called to order by the President, Dr. Walter C. Rocheleau, at 4:30 P. M. The report of the Council meeting held immediately preceding this meeting was read by the Secretary, and upon motion made and seconded it was voted to accept same and place it on file. The Treasurer, Dr. J. E. Mowry, then read in detail the budget for 1938, and the financial report of the Medical Journal. It was voted to accept these reports and place same on file. Upon motion being made, and duly seconded, it was voted to fix the dues for the year at \$10.00.

The President then read the deaths which have occurred since the annual meeting, and referred these to the Committee on Necrology for action in June:

Henry Ecroyd	died June 4, 1937
J. E. F. Henry	died July 6, 1937
Chas. W. Higgins	died Aug. 19, 1937
Harvey E. Wellman	died Oct. 24, 1937
Emery P. Sweet	died Nov. 23, 1937
Wm. C. McLaughlin	died Dec. 6, 1937

The following appointments were made by the President. Delegates to the New England Medical Societies:

Maine:

Dr. G. G. Dupre, Woonsocket
Dr. Wm. Cutts, Providence

New Hampshire:

Dr. A. Fontaine, Woonsocket
Dr. F. H. Chafee, Providence

Vermont:

Dr. Lorenzo H. Emidy, Woonsocket
Dr. George Young, East Greenwich

Massachusetts:

Dr. Morgan Cutts, Providence
Dr. T. A. Krolicki, Pawtucket

Connecticut:

Dr. Linwood Johnson, Westerly
Dr. John Helfrich, Westerly

Appointment of member at large of the Board of Trustees of the Library Building:

Dr. J. F. Archambault, West Warwick

Appointment of Anniversary Chairman:

Dr. Frank Kennedy, Woonsocket

The nominating Committee for 1938:

Dr. R. Hammond, Providence
Dr. John F. Kenney, Pawtucket
Dr. Wm. S. Streker, Providence
Dr. Henri E. Gauthier, Woonsocket
Dr. H. P. Gongaware, Hope Valley

Committee on Annual Clinics: the same as last year:

Dr. C. O. Cooke, Providence
Dr. D. L. Richardson, Providence
Dr. J. F. Kenney, Pawtucket
Dr. F. E. McEvoy, Providence
Dr. R. Whitmarsh, Providence
Dr. B. H. Buxton, Providence
Dr. A. H. Ruggles, Providence
Dr. A. H. Miller, Providence

Committee on Annual Commercial Exhibits: the same as last year:

Dr. C. W. Skelton, Providence
Dr. B. H. Buxton, Providence
The Treasurer, ex-officio

New Business:

Dr. Wells suggested that the Committee on Medical Defense be changed to Committee on Medical Defense and Grievance, enlarging the power of the Medical Defense Committee, and to include controversial subjects.

Dr. Gornly stated that the Providence Medical Association has already a Committee on Deportment and Ethics, and that Woonsocket, Pawtucket, and Kent have a similar committee, but as yet he has not been able to get such a committee working in the Newport or Washington Societies. The intention or purpose is to have each district society organize such a committee, and eventually have the

Rhode Island Medical Society its mother committee. These committees have to do with the question of malpractice, or questions on ethics and deportment. The Medical Defense Committee was appointed to work in conjunction with the United States Fidelity and Guaranty Co. with reference to the Group Insurance, and Dr. Gornly felt it was not wise to change this committee, but to appoint a new committee on grievances.

Dr. Burgess moved that a committee of seven be appointed on the question of Grievances, and being duly seconded it was so voted.

Dr. Gornly stated that the Medical Director of the SUR was desirous of meeting with the Committee on Medical Emergency Relief that was in existence in the year 1935-1936 but which had not been functioning to any great extent, and of which he was chairman. Referring to this committee, the president re-appointed the same committee to carry on, and to meet with the Medical Director as requested.

Dr. Chas. F. Gornly, Providence
Dr. W. P. Buffum, Providence
Dr. M. H. Scanlon, Westerly
Dr. N. M. MacLeod, Newport
Dr. Stanley Sprague, Pawtucket
Dr. H. E. Gauthier, Woonsocket
Dr. C. S. Christie, West Warwick

Dr. Miller spoke in regard to appointing a committee to consider the expense of the annual dinner with reference to his motion made to the Council. He stated that most State Societies appropriate a sum to carry on their Journal, and suggested that the Publication Committee be allowed to draw amounts needed out of the sum, or the whole amount, and refund at the end of the year. Dr. Miller asked for suggestions, and Dr. Gornly stated he thought that it would be better, as Dr. Miller suggested, to make the Journal more worthwhile, and make the annual meeting a real scientific one.

Dr. Burgess moved that a committee of five be appointed to consider Dr. Miller's motion with regard to the expense of the annual dinner as presented to the Council. Being duly seconded it was carried. This committee to report as soon as possible.

Dr. Kingman was in accord with Dr. Miller with reference to the Journal.

Adjourned

Respectfully submitted,

GUY W. WELLS, M.D.,
Secretary.

PROVIDENCE MEDICAL ASSOCIATION

January Meeting

The Annual Meeting of the Providence Medical Association was called to order by the President, Dr. Peter Pineo Chase, on Monday, January 3, 1938 at 8:45 P. M.

The minutes of the last meeting were read and approved. The Annual reports of the Secretary, Treasurer, Standing Committee, and Reading Room Committee were read and it was voted that they be accepted. The President then delivered his annual address in which he dealt with the problem of cancer and its control.

After the President's address, the following officers and committees were elected for the year 1938:

President—Alex. M. Burgess, M.D.

Vice-President—Harry C. Messinger, M.D.

Secretary—Herman A. Lawson, M.D.

Treasurer—William P. Davis, M.D.

Members of the Standing Committee—Peter Pineo Chase, Louis I. Kramer (5 years); Joseph L. Belliotti (3 years); Robert H. Whitmarsh (3 years); James H. Fagan (2 years); Frank B. Cutts (1 year).

Trustee—*R. I. Medical Lib.*—Lucius C. Kingman (1 year).

Reading Committee—Albert H. Jackvony, Andrew Mahoney, Henry L. C. Weyler.

Delegates to the House of Delegates of the R. I. Medical Society—W. C. Gordon, W. M. Muncy, J. J. McCaffrey, C. B. Leech, A. J. Pedorella, J. M. Beardsley, C. R. Doten, H. J. Gallagher, N. A. Bolotow, Jos. Franklin, Chas. Bradley, W. S. Streker, H. A. Lawson, J. P. Eddy, 3d, D. V. Troppoli, M. Adelman, F. Ronchese, A. M. Burgess, G. F. White, M. Saklad, J. A. Hayward, H. C. Messinger, E. Wade Bishop, Charles L. Southey and Henry McCusker.

Dr. Edward D. Churchill, John Homans Professor of Surgery, Harvard Medical School, delivered a paper entitled "Primary Cancer of the Lung." Following Dr. Churchill's paper, Dr. W. S. Streker reported for the Standing Committee regarding the employment of an executive secretary. He discussed this matter at length and made a suggestion that dues for the year 1938 be increased to \$15.00. After considerable discussion it was so voted.

The new President, Dr. Alex M. Burgess, then announced the following appointments to committees:

Medical Milk Commission—Dr. Halsey DeWolf and Dr. A. R. Newsam, appointed for five years to replace Dr. F. B. Corrigan and Dr. William Hindle whose terms have expired.

Committee on Ethics and Deportment—To replace Dr. M. S. Danforth and Dr. L. C. Kingman whose terms have expired, Dr. George VanBenschoten and Dr. A. A. Barrows.

Public Relations Committee—To replace Dr. A. M. Burgess, Dr. Louis I. Kramer and Dr. J. L. Belliotti, Dr. N. Bolotow, Dr. William Mahoney and Dr. Cecil C. Dustin.

Collation Committee—To replace Dr. Clarence Reilly, Dr. Jacob Warren.

Advisory Committee to the Bureau for the Handicapped—To replace Dr. Harvey E. Wellman, deceased, Dr. John C. Ham.

Dr. Ira H. Noyes read an obituary of the late Dr. David Brodsky and the Secretary read an obituary of the late Dr. Emery P. Sweet. It was voted that these be spread on the records and that copies be sent to the families and to the Rhode Island Medical Journal.

The following appropriations were voted:

for the use of the Library building \$450

for binding periodicals \$250

for subscriptions to Medical Journals . . \$250

The meeting adjourned at 11:10 P. M.

Attendance 152—Collation was served.

Respectfully submitted,

HERMAN A. LAWSON, M.D., *Secretary*.

Annual Report of the Standing Committee

The Standing Committee of the Providence Medical Association has held eight meetings during the year 1937. Thirty applications for membership were considered and twenty-four were approved.

On March 25, 1937, a special meeting was held at which the roentgenologists in Providence doing private practice and the Rhode Island Director of Public Health were present to consider the matter of X-ray examinations of industrial employees and food handlers. Certain proposals for handling these matters were drawn up by the X-ray specialists and presented to the Standing Committee. These proposals together with a report for a special committee of the Standing Committee were read at the regular meeting of the Association held on June 7, 1937.

Respectfully submitted,

HERMAN A. LAWSON, M.D., *Secretary*.

Annual Report of the Secretary

The Providence Medical Association has held nine meetings during the year 1937. Twenty-five new members have been elected. The Association has lost thirteen through death and four members by resignation. One member has been dropped for

non-payment of dues. The membership of the Association at the end of the year, therefore, numbered 508, a net increase of five over 1936.

At the regular monthly meeting held on November 1, 1937 the By-Laws were amended to provide for an enlarged Standing Committee which shall hereafter consist of the President, Vice-President, Secretary, and Treasurer, ex-officio, and ten members of the Society instead of five as heretofore. At the same meeting the By-Laws were amended to authorize the Standing Committee to employ an executive secretary whose salary and expenses of office shall be fixed within the appropriation voted by the Association for this purpose.

On February 24, 1937, the Association lost through the death of Dr. Charles F. Deacon, a faithful and efficient officer, who had been Treasurer of this organization for many years. The President appointed Dr. William P. Davis, Treasurer, to complete the unexpired term of Dr. Deacon.

Respectfully submitted,

HERMAN A. LAWSON, M.D., *Secretary*.

Report of the Blood Transfusion Bureau

The President

Providence Medical Association

The report of the Blood Transfusion Bureau is as follows:

The beginning of the fiscal year, with the permission of the President of the Association, was changed from January 1, to October 1. Therefore, this report only covers the first nine months of 1937.

Donors were provided for eighty-two transfusions, an increase of three over the preceding twelve months. Seventeen of these were for charity cases. \$215.50 was dispersed from the Charity Fund in partial or total payment. There were forty-nine paying cases, yielding an income for the year of \$122.50. The expenses amounted to \$15.75, leaving a net income of \$106.75.

The committee is again pleased to report a contribution to the Charity Fund of \$25.00 from the Mary Dexter Fund, Incorporated. At the present time, we have been turning our profit back into the Charity Fund.

The Bureau appears to be a self-supporting institution and from the fact that more donors are being called every month, we may say that it is filling a genuine need in the community.

Respectfully submitted,

FRANCIS H. CHAFEE, M.D.,

Chairman and Treasurer.

WOONSOCKET DISTRICT MEDICAL SOCIETY

January Meeting

The Woonsocket District Medical Society held its January meeting at LaMartinique on the first Tuesday of the month. In keeping with the traditions of later years, supper was enjoyed by more than thirty-five members. The speakers of the evening was Dennette Adams of Boston. His paper was entitled "Gastric Neuroses."

PAWTUCKET MEDICAL ASSOCIATION

Minutes of the December Meeting

The regular meeting of the Pawtucket Medical Association was held at the Pawtucket Memorial Hospital, December 16th, 1937.

The President, Dr. E. A. Cormier, presided.

The following suggestions of the Standing Committee were voted on and passed: (1) That the Library Committee be eliminated. (2) That the by-law tying the local with state dues be eliminated. (3) That the fiscal year begin in January. (4) That the dues accompany the application of every applicant for membership. It was voted that the Pawtucket Medical Association donate \$25.00 to the Memorial Hospital of Pawtucket.

Dr. Vincent J. Ryan, the guest speaker of the evening, presented lantern slides on "Common Skin Diseases." Thirty members attended. Collation was served.

Respectfully submitted,

THAD A. KROLICKI, M.D., *Secretary*.

Minutes of the January Meeting

The regular meeting was held at the Memorial Hospital on January 20, 1938. The minutes of the previous meeting were read and approved. Numerous communications were read. Dr. R. Lussier and Dr. A. Melluci were elected regular members of the Association. The president appointed the following committees:

1. Banquet Committee
Dr. S. Sprague, *Chairman*
Dr. Rob. Henry
Dr. E. Trainor.
2. Nominating Committee
Dr. C. H. Holt, *Chairman*
Dr. Earl Kelly
Dr. H. J. Hanley

Dr. Stanley Sprague presented a paper on "Urological Observations in Diabetes." Twenty-five members and five guests attended. Collation was served.

Respectfully submitted,
THAD A. KROLICKI, M.D., *Secretary*.

LOCAL EVENTS

February 8.

Dr. Frank T. Fulton entertained the Amos Throop Medical Club. He presented a case of auricular flutter in a three months old child, successfully treated with large doses of digitalis. The paper was discussed by Drs. John C. Ham, Henry E. Utter, Guy W. Wells, and by members of the club.

February 10.

At the monthly meeting of St. Joseph's Hospital Staff Association, a paper on "Allergy, with special reference to Bronchial Asthma in the Adult and in the Child," was presented by Drs. Frederick R. Riley and Stanley S. Freedman. Collation was served.

February 15.

At the regular meeting of the General Staff of the Homeopathic Hospital of Rhode Island, Dr. Harrison F. Hyer read a paper on "Cardiac Neurosis." Luncheon was served.

Officers for the ensuing year were elected as follows: *President*, Dr. Harrison F. Hyer; *Vice-President*, Dr. Joseph A. Beaute; *Secretary-Treasurer*, Dr. Louis D. Lippitt; *Executive Committee*, Drs. William M. Muncy, James H. Prior, Ralph W. Hayman, Edmund A. Sayer, Harold L. Collom.

February 18.

The Friday Night Medical Club was entertained by Dr. Lucius C. Kingman. He presented a paper on "Post-Graduate Surgical Instruction." Announcement was made of the election of Dr. Elihu S. Wing as a member of the club.

February 19.

Dr. Nathan A. Bolotow attended the mid-year Convocation of the University of Pennsylvania. He was awarded the degree of Master of Medical Science for graduate work in otolaryngology. The subject of Dr. Bolotow's thesis was "The Radical Mastoid Operation in the Treatment of Chronic Suppuration of the Temporal Bone."

Memorial Hospital

At the clinical pathological conference, held February 9, a case was presented from the surgical service by Dr. William P. Davis and discussed by the staff. The points brought out were the diagnosis and differential diagnosis in carcinoma of the pancreas. The medical service presented a review of the pneumonia cases treated with serum to date in the hospital.

The officers elected for the staff at this meeting were: Dr. John F. Kenney, President; Dr. Earl F. Kelly, Vice-President; Dr. Stanley Sprague, Secretary; Dr. Robert T. Henry, Treasurer.

Dr. Earl F. Kelly is vacationing in Florida.

The Memorial Hospital has received a sizable sum of money to establish a sero-bacteriological department to be known as the Manning Heffern Memorial.

CHANGE OF ADDRESS

Dr. John F. Kenney is changing his office from 206 Broadway to 209 Broadway, Pawtucket, R. I.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in San Francisco, California, on June 13 and 14, immediately prior to the meeting of the American Medical Association. Application for admission to the June Group A examinations must be on an official application form and filed in the Secretary's Office before April 1. The annual informal Dinner and General Meeting of the Board will be held at the Palace Hotel, San Francisco, on Wednesday evening, June 15, at seven o'clock. Dr. William D. Cutter, Secretary of the Council on Medical Education and Hospitals of the American Medical Association will be the guest speaker, and the Diplomates certified at the preceding days' examinations will be introduced individually. All Diplomates are invited to attend the dinner meeting, and to bring as guests their wives and any persons interested in the work of the Board. For further information and application blanks address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6).

St. Joseph's Hospital

During the past year, the organization and establishment of several special clinics has been carried through at the Hospital. The clinics are as follows:

1. Goitre Clinic, in charge of Dr. Frank E. McEvoy.
2. Hematology Clinic: This Clinic for the special study of blood dyscrasias is newly organized under the Medical Department and is to be in charge of Dr. John C. Corrigan of Fall River, Massachusetts.
3. Allergic Clinic: This Clinic operating also as a division of the Medical Department, has been carrying on its work throughout the year; as also has the Diabetic Clinic under the same arrangement.
4. Tumor Clinic: Development of the clinic manned by members of the Staff, has been carried through to start functioning at the first of this year. The Hospital has installed the latest type of x-ray equipment for giving deep therapy and has acquired radium also to be used as will be required by this new development. The Tumor Clinic is to be held each Friday at 11 A. M. All Staff members and interested physicians are welcome to visit at any time.

The monthly meetings are to be continued as usual on the second Thursday of each month. Clinical Conferences are at 12 o'clock Noon on Fridays.

Dr. Arnold B. Moore, who has recently completed a two year rotating internship and a residency in Obstetrics, has opened his office at 588 Howard Avenue, New Haven, Connecticut.

Woonsocket Hospital

The monthly Clinico-pathological conference was held on January 24, 1938. Dr. Walter C. Rocheleau presented a case of Aneurysm of the Abdominal Aorta. The autopsy findings revealed the presence of a long standing aneurysm with rupture occurring a few days before death. A second case was presented by Dr. Henri E. Gauthier a recent case of Melano-Sarcoma of the Lumbar region. Rapid generalized metastases were confirmed by autopsy. General discussion followed the presentation of each case.

Rhode Island Hospital

SCHEDULE FOR MARCH, 1938

Thursday, March 3, 1938:

Gyn. Staff Meeting, 8:30 P. M.

Friday, March 4, 1938:

G. U. Staff Meeting, 7:30 P. M.

Surg. Staff Meeting, 8:30 P. M.

Tuesday, March 8, 1938:

Clinical Path. Conference, 12:00 noon.

Tuesday, March 22, 1938:

Clinical Path. Conference, 12:00 noon.

Mondays:

Surgical Grand Rounds, 10:00 A. M.

I Surg. Grand Rounds, March 14, 28.

II Surg. Grand Rounds, March 7, 21.

Skin Clinic at O.P.D., 11:30 A.M.

Thoracic Clinic, 4:30 P. M.

Tuesdays:

Gastro-Intestinal Clinic, 9:30 A. M.

Surgical Grand Rounds, 10:00 A. M.

I Surg. Grand Rounds, March 8, 22.

II Surg. Grand Rounds, March 1, 15, 29.

Wednesdays:

Tumor Clinic, 10:00 A. M.

Thursdays:

Orthopedic Grand Rounds, 9:00 A. M.

Thoracic Clinic, 11:30 A. M.

Fridays:

Fracture Grand Rounds, 11:00 A. M.

Pediatric Grand Rounds, March 11, 25,
11:00 A. M.

Skin Clinic at O.P.D., 11:30 A. M.

Saturdays:

Neurological Grand Rounds, 9:00 A. M.

Medical Conference, 10:00 A. M.

On January 15th, Dr. Daniel C. Hackett started a two years' internship. Dr. Hackett, whose home is in Riverdale, N. Y., is a graduate of Williams College and Columbia University, College of Physicians and Surgeons.

On January 29th, Dr. Ralph Purvine, who interned at the Rhode Island Hospital for two years, left for his home in Salem, Oregon. Dr. Purvine travelled by automobile. On the way, he spent one night at the home of Dr. and Mrs. Luther McDougal in Paris, Texas. Dr. Purvine is a graduate of Willemette College and Jefferson Medical School. He expects to return to Providence, April 1st.

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On December 24th, 1937, at Cambridge, Mass., Dr. Charles S. Bryan, intern at the Rhode Island Hospital, was married to Miss Mary Marks, of Minneapolis, Minn. At present, Mrs. Bryan is residing in Cambridge, Mass.

Dr. Stephen H. Harris, who interned at the Rhode Island Hospital from October 15, 1935, to November 1, 1937, and who spent some months at the Chapin Hospital, is now stationed at Fort Ethan Allen, Vermont.

On February 1st, Dr. George E. Bowles started a six months' internship at the Lying-In Hospital. Dr. Bowles was recently a patient in Ward F.

Dr. Reeve Betts, who has been associated with the Lahey Clinic in Boston, has resigned and is now associated in practice with Dr. Overholt at 1101 Beacon Street, Boston, Mass.

Dr. Edmond B. Sinclair, of Providence, has begun his service as Resident Physician at the Jane Brown Memorial Hospital. Dr. Sinclair was intern for two years at the Rhode Island Hospital. He is a graduate of Brown University and Yale Medical School.

On February 15th, Dr. Walter Fitzpatrick, of Providence, a graduate of Providence College and Georgetown Medical School, began a two year internship at the Rhode Island Hospital.

On January 15th, Dr. John S. Dziob completed his year of residency at the Jane Brown Memorial Hospital and has now entered private practice at 184 Waterman Street, Providence.

OBITUARY

CHARLES WESLEY HIGGINS, M.D.

Dr. Charles Wesley Higgins, prominent general practitioner and gynecologist in Providence, died quietly in his sleep on August 19, 1937. He was in his seventy-second year. Dr. Higgins was born in Wellfleet, Massachusetts, August 3, 1866. After attending public schools in Providence, he studied pharmacy. Working as a pharmacist, he began the study of medicine and graduated from the Medical School of the University of Pennsylvania in 1894. After two years internship at the Rhode Island Hospital, he commenced private practice in Providence in 1896. Soon he was appointed to the gynecological staff of the Rhode Island Hospital, with which he was connected throughout his life, being at his death the senior consulting surgeon in that department. He served as house physician at the

Providence Lying-In Hospital from 1897 to 1899, and as visiting physician for the next fourteen years, after which he continued as a member of the consulting staff. He was for many years consulting surgeon to the South County Hospital. In 1904, he married Evangeline M. Spring of Worcester, Massachusetts, who survives him.

Dr. Higgins early became prominent in private and in hospital work and continued in the fore front in medical and surgical circles throughout the years. While he continued to do general practice, his work in obstetrics and gynecology constituted a large part of his practice. His surgical judgment and operative skill earned for him the high regard of his colleagues and of the public. He was a man of high ethical medical standards and such engaging personality as to win for him the warm friendship and high esteem of all who knew him. Among these he will be greatly missed and his passing will be deeply regretted.

GEORGE L. SHATTUCK, M.D.
HALSEY DEWOLF, M.D.

DAVID R. BRODSKY, M.D.

David R. Brodsky was born in Russia, December 25th, 1903, coming to this country with his parents when two years old. He attended the primary schools in Providence and was graduated from Hope Street High School in 1921. The following year he entered Brown University and received his Ph.B. degree with the class of 1925. He received his medical education at Tufts College Medical School where he was awarded his medical degree in 1929. His clinical experience began at the Memorial Hospital, Pawtucket, where he served a rotating internship for one year. Having chosen Gynecology and Obstetrics as a field of medical practice, he took an appointment at the Carney Hospital in Boston for eighteen months, preparing himself for his specialty. This work was supplemented by six months of obstetrical training at the Providence Lying-In Hospital which he ended in February 1932.

In April 1932 he opened his office for the practice of Gynecology and Obstetrics in Providence. He became assistant surgeon in the department of Gynecology and Obstetrics of the Miriam Hospital and visiting surgeon in Gynecology to the outpatient department of the Charles V. Chapin Hospital. He was a member of the associate staffs of the Homeopathic and Lying-in Hospitals.

He was a member of the Providence Medical Association, Rhode Island Medical Society, American Medical Association and the New England Obstetrical and Gynecological Society.

Although Dr. Brodsky had been in actual private practice for a comparatively short time, he had already established himself as a capable physician with a large and loyal following. In the course of a prolonged illness, his fortitude and perseverance were of unbelievable magnitude. In the face of the inevitable, he continued his work smilingly and diligently, knowing all the time that his days of labor were to be but brief and numbered. He spent his last days in hope that he might still recuperate enough to return again to the demands of his practice. He was on the threshold of life, with a brilliant future ahead of him in his chosen specialty. His associates and his host of friends grieve at his premature passing. Death occurred on December 11, 1937 at the Beth Israel Hospital in Boston. Burial took place at Lincoln Park Cemetery, Warwick, R. I.

Dr. Brodsky is survived by a most devoted wife, Freda (Fishman) Brodsky and a son, Leonard Fischer Brodsky.

IRA H. NOYES, M.D.

NATHAN A. BOLOTOW, M.D.

EMERY PECKHAM SWEET, M.D.

Dr. Emery Peckham Sweet was born November 6, 1864, died November 23, 1937.

He was a member of one of Rhode Island's oldest families. His first ancestor was James Sweet who settled on Prudence Island in the Seventeenth century. His father was Dr. Thomas Sweet.

Dr. Sweet graduated from College of Physicians and Surgeons in New York, the Medical Department of Columbia University, in 1889, with a degree of Doctor of Medicine. Immediately after graduation he started practice in Providence, having his office in the old Butler Exchange Building and later in The Union Trust Building.

In his earlier years he was a general practitioner of medicine and surgery; in later years he limited his work more to joint and bone disturbances. Because of increasing ill-health he gave up the practice of medicine about two years ago and for the past year he had been completely disabled as the result of a cerebral hemorrhage.

He was quite prominent in fraternal orders and was a 32nd degree Mason. He was very kind and sympathetic and was much beloved by his patients.

On October 7, 1891 Dr. Sweet was married to Miss Laura Bishop Rogers of Providence. They had no children. He is survived by Mrs. Sweet and his sister, Mrs. Herbert E. Hathaway of Detroit, Michigan.

JAY PERKINS, M.D.

RECENT BOOKS

SHORT-WAVE DIATHERMY. By Tober de Cholnecky, M.D., F.A.C.S. Pp. 310, with 38 illustrations. Cloth, \$4.00. The Columbia University Press, New York, 1937.

Heat therapy has received much notice recently because of various electrical methods of generating heat in the body. This book limits itself to the consideration of heat production by electrical waves of 3-30 meters or a frequency of 10-100 million per second. Conventional or long wave diathermy employs wave lengths of 300-600 meters or frequencies of 0.5-1.0 million per second. The advantages claimed for short wave diathermy are, more even heat production and deeper penetration; together with the lack of necessity for direct body contact of electrodes and hence less danger of accidental burns through displacement of electrodes.

The author gives a simple, but adequate explanation of the physics of short wave generators, followed by an extensive review of experimental work both in vivo and in vitro. Technic in general is discussed, followed by detailed discussion of indications in various diseases and areas of the body. This section on clinical applications occupies about one-third of the volume. The book concludes with an extensive bibliography which takes up nearly forty pages.

The work presents the enthusiastic but well considered views of the author on the subject, and avoids the attitude that diathermy is a "cure-all" in spite of widespread indications for its use. Possible specific effects of short wave radiations are discussed but in the concluding chapter he says: "At present, short wave diathermy may be considered purely a form of heat therapy. . . . The chief beneficial action seems to be the induction of an intense and lasting hyperemia."

The book may be studied with profit, by anyone interested in the subject.

PHILIP BATCHELDER, M.D.

THE MANAGEMENT OF FRACTURES, DISLOCATIONS AND SPRAINS. By John Albert Kay, B.S., M.D., and H. Earle Conwell, M.D., F.A.C.S. Second Edition, pp. 1246, with many original illustrations, Cloth, \$12.50, The C. V. Mosby Company, St. Louis, 1937.

This book is a revised edition of the excellent volume published in 1934. The methods of treatment of fractures are changing so rapidly that text-books require frequent

revamping. To illustrate: in this new edition the authors recommend that a fracture of the carpal scaphoid be immobilized in plaster

"... with the hand at the wrist moderately hyper-extended and fully abducted; that is, deviated to the radial side. The thumb is fully adducted and extended."

while in the 1934 edition the same fracture is held in plaster

"... with the hand at the wrist in the mid-position as regards flexion and extension and slightly adducted; that is, deviated to the ulnar side. . . . The thumb is in the grasping position (adducted and opposed) . . ."

It is through such reversals that real progress is made in the treatment of fractures. Likewise the treatment of femoral neck fractures has changed considerably since 1934 — from open reduction and insertion of the Smith-Peterson nail to the simpler Leadbetter, or closed, reduction and the insertion of nails or pins through small incisions and under X-ray guidance. In this edition the authors have added concise descriptions of the various methods of nailing and spiking these fractures of the neck of the femur, such as the Smith-Peterson-Johanssen nail technic, the Austin Moore method of inserting three threaded pins, the O'Meara method of "blind" nailing, and other modifications of these methods. The reproductions of the X-ray plates to illustrate these methods are particularly well done, in fact, the illustrations throughout the book are unusually clear and well chosen. This volume accomplishes its avowed purpose "to furnish a practical working guide in the management of fractures, dislocations, and sprains."

To surgeons and orthopaedists who treat many fractures and dislocations this new edition should be especially helpful. To practitioners who treat these cases occasionally this book is a real necessity, both because of the up-to-the-minute methods advocated and to avoid mal-practice threats. For interns and medical students it is a reliable source of reference.

HENRY McCUSKER, M.D.

OBSTETRIC AND GYNECOLOGIC NURSING. By Frederick H. Falls, M.S., M.D., F.A.C.S., and Jane R. McLaughlin, B.A., R.N., pp. 492, with 83 illustrations. Cloth, \$3.00. The C. V. Mosby Company, St. Louis, 1937.

This is a book of 490 pages, divided into 34 chapters. It is written for pupils who have a rather advanced knowledge of general nursing principles and goes into the specific field of Obstetrics and Gynecology exhaustively. While the authors have not lost sight of the fact that bedside nursing ability and the direct care of the patient is the primary work of the graduate nurse, the amount of theoretical material such as physiology, pathology and bacteriology seems rather overwhelming for the average pupil nurse. One ponders on why a nurse should be much concerned with the details of classification and measurements of deformed and contracted pelves, or what occasion she has for studying the technique of such procedures as Craniotomy, Decapitation, Embryotomy or Pubiotomy. It would seem doubtful

if even those unusually efficient nurses of the Frontier Nursing Service ever are required to perform such special technical work.

Of course the inclusion of so much theory as now appears in textbooks for nursing harks back to the general standards of nursing education and the immense amount of material that a nurse is required to retain long enough to pass a State board examination, and one who does considerable work in Obstetrics and Gynecology cannot help but sometimes wish for simpler ways in training nurses in the sympathetic, gentle, kindly homely care of a sick or convalescing bed patient, rather than overburdening her time and strength and mind with Medical and Surgical Problems of Technique and Treatment which will always lie entirely in the field of the Doctor of Medicine.

Incidentally, although this work goes into considerable detail as to contracted pelves, no mention is made of the present day accepted classification of Caldwell & Malloy or of Radiographic study of pelves. One also might take issue with some of the rather obsolete treatments advised in this comprehensive textbook, such as Quinine and Castor Oil for the Induction of Labor, and "How to make and apply hot wet dressings for 'Milk Leg'." Again in a rather extensive illustrated section on the Circumcision of Infants, no reference is made to the modern method with a Gomco clamp which has almost entirely supplanted older techniques.

However, in spite of the above comments on a few of the matters treated in the work, it is well written and easily read, well arranged and commendably profuse with splendid, well-chosen illustrations.

It will be a very useful and concise reference book for the nurse who is interested in refreshing her knowledge of Obstetrics and Gynecology.

PAUL APPLETON, M.D.

PHYSICIANS' VITAMIN REFERENCE BOOK. By the Medical Division Professional Service Department of E. R. Squibb & Sons, pp. 126. E. R. Squibb & Sons, 745 Fifth Avenue, New York, 1938.

This is a useful compendium of the latest facts about vitamins.

The description of each of the vitamins is preceded by a useful condensed summary. Estimated daily requirements of various vitamins are stated in International Units where these are available. The vitamin potencies of a number of foods, selected because of their relatively high potency and general availability are also given.

The subject matter appears to have been carefully selected and conservatively presented, and it repeatedly reproduces the attitude of the Council of Pharmacy and Chemistry toward the clinical use of the vitamins in certain pathologic states. With a frankness that is commendable, negative reports are cited without bias, leaving, as should be done, the choice of therapy strictly with the physician.

The manufacturer does not state under what terms the book is available, so it must be inferred that any physician who is interested need only write to the firm to obtain a copy.



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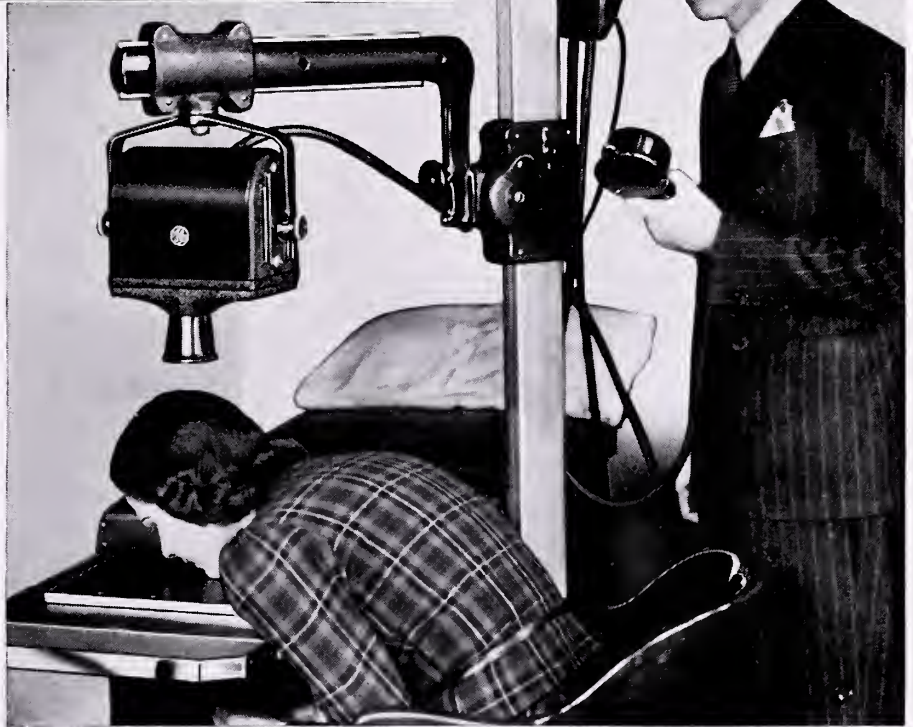
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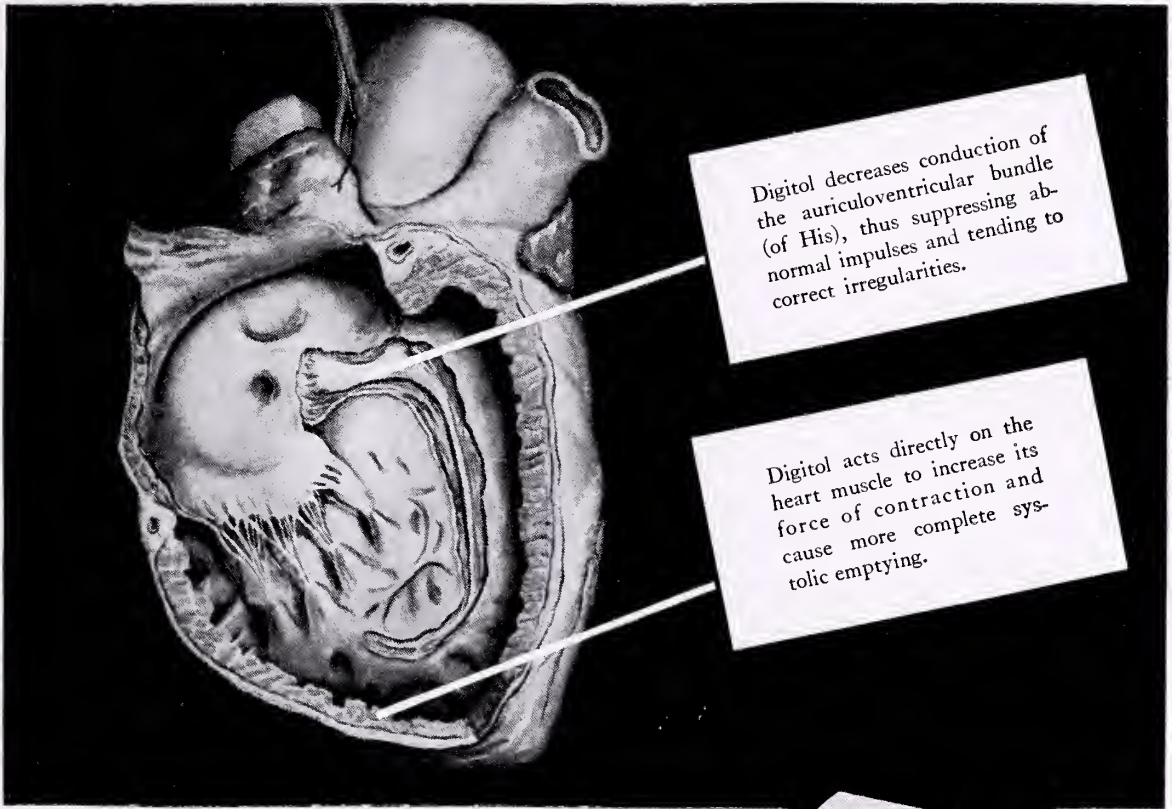
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No. 4

APRIL, 1938

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In This Number

Annual Address of the President of the Providence Medical Association—

Recent Concepts of Cancer Treatment. By Dr. Peter Pineo Chase

Some Theoretical and Practical Considerations of the Anemias. By Dr. Eugene L. Sielke

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Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3
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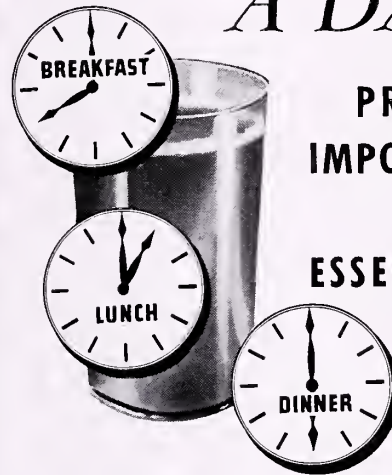
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Annual Address of the President PROVIDENCE MEDICAL ASSOCIATION

January 3, 1938

RECENT CONCEPTS OF CANCER TREATMENT

PETER PINEO CHASE, M.D.

122 WATERMAN STREET, PROVIDENCE, R. I.

We have all been impressed with the campaign against cancer which has been developing intensively the last few years. I believe it was Wellington who said, "War is guessing what the other fellow is doing on the other side of the hill." So the metaphor is apt when we speak of the war on cancer. We know when its attack has come into the open but when it will strike us or why, we know not.

There have been and there are still coming, theories galore. The infection theory has been strongly urged but apparently is generally discredited now. The role of viruses has much experimental support in certain types of cancer. Chronic irritation is the best known and best authenticated precursor of cancer—the cheek cancer in betelnut chewers, abdominal cancers in tribes who carry baskets of live coals under their robes and the many carcinogenic agents in industry and experimental laboratories—but these are not sufficient explanations in themselves. There are thousands of mouths in Providence with jagged teeth and the rottenest of hygiene. A few score at the most will show mouth cancer.

The laity are firmly convinced that cancer follows a single injury and apparently a large part of the profession agrees with them. Post hoc ergo propter hoc. With the innumerable greater or lesser bruises and bumps the human race is continually receiving a goodly proportion of cancer patients can look back to what they believe are causative injuries. And the courts are prone to agree with them. Recently a powerful negro stevedore wrenched his forearm. He testified he stopped work for only a few minutes, called no one's attention to it and continued on the job till the vessel was empty a few days later. Next week he reported to a physician with a swelling several inches in diameter. From then on the swell-

ing grew no more and in a few weeks an operation showed a sarcoma. The judge ruled that the accident caused the cancer. But laboratory experiments produce no cancer by anything like single traumas and the incidence of cancer in hundreds of thousands of injured persons followed by insurance companies and army surgeons after the Great War is no greater than in the general population. Perusal of the proceedings of cancer congresses or the multitude of papers on cancer will show that this hypothetical cause is practically ignored except for medico-legal discussions.

A striking relation between the hormones and cancer apparently exists. The Memorial Hospital in New York has shown that the results of radiation in testicular tumors can be followed by the quantitative estimation of prolan in the urine. Marked relationship between ovarian hormones and breast cancer is being demonstrated even to the extent of regression of the advanced disease when the ovarian hormones are destroyed by radiation. Inheritance, environment and social conditions all seem to be implicated and back of all this there may be fundamental physiological cell conditions as yet beyond our knowledge. In general it seems more and more certain that no single simple theory of cancer will suffice but an interplay of many factors of varying significance in different types and cases.

It is evident that more cancer is being seen than formerly but is it actually increasing? No doubt due to increased knowledge and skill a larger proportion of cases are being recognized. The incidence of cancer increases with age and the average length of life is advancing so that there is undoubtedly more opportunity for cancer to develop. In this way only probably is cancer increasing.

Frequent reference is made to the typical signs of cancer. This is a poor phrase as cancer is not typical except possibly in its advanced stages. It is protean in its manifestations or what is fully as probable gives no demonstrable manifestation until well developed. Our numerous criminals today are often

helped in their nefarious careers by the legal maxim that a man is innocent until proved guilty. Don't give cancer that chance. To change the figure, this isn't a cricket match but a street fight. Everything goes. Any change in bodily appearance or function, especially but not necessarily as age increases, must cause suspicion. Any ulcer that persists, any new lump or swelling, persistent bleeding or discharge, change of bowel function, persistent indigestion—as Dr. Churchill will probably impress on you, something different going on in the lungs. They may all be cancer and that is the time to fix them. And don't let syphilis fool you. They gang up together, especially in the mouth. A year or two ago a small pimple or pustule appeared on the back of the hand but it didn't clear up or get worse. The sharp point of a knife didn't free the expected droplet of pus. Biopsy with the immediate examination showed epidermoid carcinoma and a square inch or so of skin was cut away. We have seen a thousand pimples that looked like this but they got better or worse soon.

There is only one fixed rule for the treatment of cancer and that we got from Donnybrook Fair, "When you see a head, hit it." And like the lad with the shillalah, "Hit hard." You will never have a better chance than your first one. But team work is exceedingly important. At least three agents have proved their value, surgery, x-ray and radium. Each case must be approached with an open mind as to which one agent or combination shall be used. In general, distrust the man who emphasizes one agent in the treatment of cancer. Even in a field so pre-eminently that of the surgeon as breast cancer, Mr. Keynes of London with his use of interstitial radium is causing a doubt as to whether we will always be doing our horribly mutilating operations. A woman with a cancer of the tongue had interstitial radium twice, two operations on the tongue and x-ray over the neck. For four years now she has been in fine condition. Another important member of the team is the pathologist. It is no longer bad form to do a biopsy on a cancer case. Not only can the pathologist usually say whether or not it is cancer but his grading as to degree of malignancy is frequently of value in selecting the agent for treatment.

But there are still many gloomy members of the profession who shake their heads and question the worth-whileness of cancer treatment. Operations are mutilating. You are never sure you have a cure.

Life with a colostomy is worse than death, etc. The answer to the first is that many mutilations can be covered up and life is usually sweet even to people with facial disfigurements. You are never in doubt about heart disease or diabetes. You know you have not cured them. But the patient appreciates palliation in these and in cancer. Dr. Daniel Jones with an enormous experience felt that his colostomy patients were very contented. Two of the most satisfied patients I know have colostomies. Ewing says, "Cancer is the most curable of the major causes of death and in this field the physician renders some of his most valuable services or makes his most regrettable mistakes."

The American Society for Control of Cancer and particularly its branch, the Women's Field Army, have conducted an earnest campaign to educate the laity about cancer. There is no doubt that the profession has needed education also. Being such a disagreeable subject doctors have shrunk from it, particularly because of their pessimistic view of the results of treatment. One good way to cause a change in this attitude is to visit cancer clinics, study the diagnoses, see the apparent cures and what is probably even more important the palliations. In many states now diagnostic clinics are established at strategic points which can act as sorting stations and handle directly the more straight-forward cases. But the difficult diagnostic problems, and especially much of the treatment, require central institutions with large specially trained staffs and much equipment. In discussing the evolution of the cancer problem Ewing says, "The final and most important development was the creation of special cancer hospitals and institutes combining clinical and pathological studies, gathering large numbers of cancer patients in one place and leading to much greater specialization in all departments."

Geographically, Rhode Island is a small area and outside the Providence vicinity it would seem unreasonable to have such a center. There has been some attempt to start a movement for diagnostic clinics in the outlying districts but they have not so far responded, feeling that any difficult problem can easily be brought here. The Rhode Island Hospital now has a clinic some years old with pathologists well trained in tumor diagnosis, an efficient x-ray plant for treatments, about five hundred milligrams of radium and a group of doctors representing various specialties who have observed this large clinic

for several years. Judging from the relation of equipment to population in other centers it would seem wasteful to duplicate all this in a community of our size. But one endowed hospital can not afford now to do all this work for the community. There would seem to be two solutions open to us,—first, state-supported care of cancer patients. Massachusetts and New Hampshire are two of our neighboring states doing this. Apparently sentiment among us is at present strongly against any radical increase of state medicine—second, the establishment of a privately endowed cancer hospital as the Memorial in New York, the Huntington and Palmer Memorials in Boston. This would seem to be the ideal solution. Let us hope that some of our well-to-do citizens will contribute to this humanitarian purpose money that otherwise would be taxed from them and expended in dubious governmental manners.

In most large centers of civilized population cancer hospitals have been established. Here the populace learn they can get intelligent care and hence quacks flourish less. Pathologists and clinicians seeing large groups of cases understand the diverse aspects which cancer especially presents both for diagnosis and treatment. Reduplication and overlapping of specialized, expensive and dangerous agents like x-ray and radium are prevented. Opportunities for study, teaching and research are presented. Providence is the logical place for such an institution. Earnest efforts should be made to bring this need to the attention of our populace.

SOME THEORETICAL AND THERAPEUTIC CONSIDERATIONS OF THE ANEMIAS

EUGENE L. SIELKE, M.D.

RHODE ISLAND STATE HOSPITAL FOR MENTAL DISEASES

It is virtually impossible to discuss the anemias without entering into the consideration of a certain amount of physiological theory and experimental work. In this presentation, perhaps somewhat platitudinous, I have tried to reduce theoretical aspects to a minimum and confine myself mainly to practical applications, to diagnoses and treatment, especially that which may interest us in our work here.

In the first place it is necessary to gain a vantage point from whence one can achieve a certain perspective and comprehensive grasp of the anemias as a group. This can best be attained by adopting a simple system of classification. The old system of primary and secondary anemias was quite simple; in fact, too simple, *but*, in the light of present knowledge, woefully inadequate and contributing little to an understanding of etiology and treatment. A classification, widely accepted at present, follows, with some pertinent and practical considerations.

I. In the first group are pernicious anemia and other related macrocytic anemias. These are all characterized by an anemia in which the red blood cells are larger than the normal; that is, macrocytes.

In this group, besides pernicious anemia, there are sprue, pellagra, postgastric resections, intestinal short circuits and stenoses, chronic dysentery, idiopathic steatorrhea, pregnancy, dibothrycephalus latus infestation, and other less well defined states of malnutrition and liver disease. The etiology of the anemias arising from all the foregoing conditions is considered to be a nutritional defect of the blood marrow. Castle of Boston has postulated a basic hypothesis with which most of us are familiar and which until today has not been generally discredited. It helps greatly in the understanding of these anemias. This hypothesis states that, *normally*, bone marrow nutritional deficiency does not occur because of the presence in the food of a substance—the so called extrinsic factor—which, together with a specific principle of the normal gastric juice—the so called intrinsic factor—leads, after absorption from the normal alimentary tract, to the production of a thermostabile substance stored particularly in the liver and kidney, and at present known, for want of better isolation, as liver extract. The beforementioned anemias are, therefore, liver extract deficiency anemias. This deficiency of liver extract can be brought about in three different ways, singly or in combination; first of all, by deficiency of the extrinsic factor—a food deficiency. This extrinsic factor is found mainly in animal proteins such as meats or eggs, but not in vegetable proteins. Secondly, by deficiency of intrinsic factor as in pernicious anemia, gastric resection, or any condition producing achylia and loss of the intrinsic factor normally formed in the stomach mucosa near the pylorus. Thirdly, by altered permeability of the intestinal tract so that the above two factors are not absorbed and used in the forma-

Read before the Journal Club at the State Hospital for Mental Diseases, December 17, 1937.

tion of the third substance, liver extract. This last condition can occur in the chronic diarrheas. In sprue there is a lack of extrinsic factor in the diet associated with impaired intestinal absorption because of the diarrhea and altered intestinal permeability. Pellagra is apparently due to the same two causes plus the vitamin B complex deficiency. It is easily seen that these anemias, including pernicious anemia, would, under the older terminology, be in reality secondary anemias, and also that all these anemias are responsive to treatment with liver extract by supplying that deficiency.

The cause of the deficiency of the intrinsic factor and the achlorhydria in pernicious anemia is still not defined, but the present trend of experimental evidence seems to indicate that there is first of all a constitutional tendency present, which under the influence of a chronic nutritional deficiency finally leads to the development of the classical signs of this disease. Infectious causes for pernicious anemia as well as for the associated gastritis and glossitis have been mainly discarded.

II. The second large group of anemias are the hypochromic or microcytic anemias. These arise chiefly because of a failure in the production of hemoglobin. The hypochromic anemias are usually small-celled or microcytic in type and have recently been known as iron deficiency anemias. Some abnormal mechanism for causing loss of iron is necessary to produce a hypochromic anemia. The loss of available iron may be relative, as with rapid growth and consequent increase in blood volume, or absolute, as with hemorrhage or as in the transfer of hemoglobin building factors from mother to fetus. In the common chlorosis of bygone days, but of which many cases still occur, there is both the relative and absolute loss of hemoglobin building materials because of growth, in the first place, and menstrual blood loss in the second. If the diet is deficient in iron or the alimentary tract is unable to assimilate it from the food, the loss of iron will exceed the intake and a hypochromic anemia result. The incidence of this type of anemia is much greater than the average physician appreciates, and in our own hospital is probably the most common. A recent survey on 3,500 individuals from the poorer classes in Aberdeen, Scotland, showed that 16% of adolescent women and 45% of adult women had hypochromic or iron deficiency anemia. An interesting and practical fact brought out in this report was that anemia was absent in all males except in association

with some organic disease. The association of this type of anemia in women with the chronic blood loss of menstruation is obvious. Unless the amount of iron in the diet is greater than the average during a woman's menstrual life an iron deficiency state or hypochromic anemia can easily arise.

III. The third large group of anemias are the so called hemolytic types of which the outstanding cause is an increased destruction of red blood cells. There are several sub-groups which might be mentioned in passing. First are what is known as the paroxysmal hemoglobinurias, under which is included the so called cold type which has been related to syphilis but which, however, also occurs in non-syphilitic individuals. In this type hemolysis of the blood occurs on exposure to cold. A second type of hemoglobinuria is what the Germans call march hemolysis, really an exertion hemolysis, which occurs on prolonged physical activity. A third type, more common in animals, especially the horse, is the paralytic hemoglobinuria in which the muscles become weakened by hemolysis of the hemoglobin in them, leading to a paralysis. A fourth recently defined type is the nocturnal hemoglobinuria which occurs without any known cause, only during sleep. This last type eventually proves fatal. Erythroblastic anemia in children, sickle cell anemias, chronic hemolytic icterus, and the blood destruction due to such drugs as benzol and sulphanilimide are all anemias due to increased blood destruction, and are classified under this third group.

IV. In the last or fourth group of anemias one can include all those arising from the so-called hemorrhagic diseases, under which are included hemophilia, scurvy, and the various purpuras.

With this brief survey of the anemias we can summarize some of the most important etiological factors in their production. First is the question of diet. For a diet to provide adequate materials for normal blood building it must contain three important substances: an adequate daily intake of iron, which in the adult is about 60 mg.; sufficient amount of animal protein; and lastly, adequate amounts of vitamin B complex and C. These latter vitamins have been proved necessary for normal blood building. Next in etiological importance are gastric and intestinal abnormalities and interference with the formation of intrinsic factor in the stomach and formation of liver extract substance and its absorption or storage in the liver. Achlorhydria is important, as in this condition iron is not as well assimilated

lated as when the hydrochloric acid content of the stomach is normal. Chronic intestinal disorders such as dysentery and chronic diarrheas also interfere with the absorption of iron from the diet. Various types of liver disorders, such as the cirrhoses, interfere with the formation and storage of the necessary liver substance or extract and lead to the specific macrocytic anemia. Other less common but important etiological factors are those which interfere directly with the normal function of the bone marrow without there being any deficiency of blood building materials as with certain chemical poisons such as radium, benzol or arsenic, producing so-called aplastic anemias. Carcinoma, leukemia and Hodgkin's disease cause anemia by their direct effect and by crowding out of the blood building elements of the bone marrow. Increased blood destruction leads eventually to anemia, as has been noted.

Treatment

After all is said and done the important practical consideration in the treatment of the anemias is the determination of the particular type and its etiology. Only after this is done can a rational outline or program of treatment be initiated. The alleviation of the anemia and the concomitant symptoms in the shortest possible time and at the least expense to the patient or hospital is directly dependent on a correct diagnosis. Shotgun prescription methods and the administration of liver extract and iron in every case of anemia, no matter what the etiology, is both expensive and often valueless. In the anemias an adequate history, physical and laboratory examination is essential as in all diseases. In the history attention is particularly paid to previous dietary habits, gastrointestinal symptoms, neurological manifestations and hemorrhages of any sort. The physical examination must include a search for lymph adenopathies, enlarged spleen and liver, purpuric spots and petechia as well as a neurological examination. The laboratory contributes to the diagnosis by gastric analysis, stool examinations for blood, icteric index, fragility tests and careful blood examination. Gastro-intestinal x-rays and x-ray examination of the bones is at times indicated. When all the data is assembled, a diagnosis can usually be made and the treatment then is simple. The macrocytic or liver extract deficiency anemias respond promptly and specifically to the administration of liver extract.

Sixty times as much liver extract must be administered orally as parenterally for the same reticulocytic response. The advantage, at least economically, for giving the extract by injection is obvious. Cases of pernicious anemia with advanced neurological involvement appear to need larger doses than the ordinary types. Because of the variable potencies of different extracts as put out by the commercial companies a standard dose cannot be given. However, recently there has been successful agitation for approving liver and stomach preparations in terms of units and this will soon be generally adopted. A unit is defined as that amount of material given daily, orally or by injection, which produces satisfactory reticulocyte rises and increases in erythrocytes and hemoglobin in a patient with Addisonian pernicious anemia.

The general administration of liver extract in hypochromic, hemolytic or the anemias due to increased blood destruction is frequently useless and always expensive. In the hypochromic anemias iron is *the* important therapeutic agent. The average daily dose of various common iron preparations to insure maximum effects is reduced iron 3 gm., mass of ferrous carbonate 4 gm., ferric and ammonium citrates 6 gm. and ferrous sulphate 1 gm. In the presence of achlorhydria the use of the soluble forms such as the citrates and the ferrous sulphate are preferred. Because of the convenience, smaller adequate dose, and better tolerance, the trend is towards the use of ferrous sulphate, which is both inexpensive and therapeutically active and can easily be administered in capsules. In the anemia due to scurvy, all symptoms as well as the anemia respond specifically to the administration of Vitamin C. Idiopathic disturbances of the blood forming organs such as the hemolytic and hemorrhagic groups mentioned are *not* amenable to drug therapy as far as the anemia is concerned, but are treated symptomatically or surgically as by splenectomy in chronic hemolytic icterus or thrombocytopenic purpura. No amount of liver extract or iron will influence the anemia of aplastic anemia, purpura, agranulocytosis or leukopenia.

If this presentation has done nothing else but bring home the fact that liver extract will not cure every anemia, it has been decidedly worth the effort.

It is hoped also that this brief sketch of the anemias has fulfilled its purpose of crystallizing some of the more important concepts now in vogue.



THE RHODE ISLAND MEDICAL JOURNAL

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106 Francis Street, Providence, R. I.

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CONGRATULATIONS TO DR. PERKINS

In January 1938, Dr. Jay Perkins resigned as President of the Providence Tuberculosis League and was elected *President Emeritus*. In retiring from active leadership in community tuberculosis work, he leaves an enviable record of service extending over 44 years.

His interest was first aroused when, in 1894, working with Dr. Gardner T. Swarts, he was impressed by the danger to the community in the number of positive sputum cases found. From this time on the high lights of his activities in this field mark the milestones in the organized fight against tuberculosis in Providence. In July 1900, he organized the tuberculosis clinic at the Rhode Island Hospital and served as its active head until 1920. In association with Dr. Charles V. Chapin, Dr. Swarts, and others he worked incessantly to arouse public sentiment for a state sanatorium, facilities for the care of far advanced cases, and greater general participation by the public in the fight against tuberculosis.

The year 1905 was a memorable one in that many of the developments that Dr. Perkins was working for were achieved. He became a charter member of the National Tuberculosis Association. The State Sanatorium opened its doors and he served as visiting physician for two years. He became physician in charge of the tuberculosis branch of St. Joseph's Hospital at Hills Grove. The Providence Society for Organizing Charity appointed him as chairman of the Committee for the Relief and Control of Tuberculosis. Later this committee developed into the Providence Tuberculosis League. He has continued as President of the League until now.

In 1907, Dr. Perkins helped in the formation of the Rhode Island Tuberculosis Association and served as director. In 1910, largely through his efforts, money was raised to purchase the Lakeside property for the Society for Organizing Charity. Lakeside was managed by this organization until formation of the Tuberculosis League which manages it today. In 1910, on the opening of the Charles V. Chapin Hospital, he allied himself with the tuberculosis work there, and in 1921 was elected physician in charge of the tuberculosis department.

It is interesting to note not only that the fundamental principles which were the basis of the work of his committee in 1905 are practically the same as those in use today but also that the methods employed then have since proved their worth.

The JOURNAL congratulates Dr. Perkins on a far-reaching and effective public service in the control of tuberculosis, and wishes him comparable success and happiness in his other work.

SMALLPOX

During the first eight weeks of 1938, there were 450 cases of smallpox reported in the United States, compared with 2364 during the same period of 1937. Judging from the reports, the following states might concentrate more on compulsory vaccination: Ohio, Indiana, Illinois, Michigan, Minnesota, Iowa, Missouri, North Dakota, Nebraska, Kansas, Kentucky, Tennessee, Oklahoma, Texas, Montana, Idaho, Colorado, Arizona, Washington, Oregon and California.

ANNIVERSARY DINNER

The President of the Rhode Island Medical Society has appointed a committee to consider and report on the advisability of charging those who attend the annual dinner an amount sufficient to cover the expense of the banquet. Under the present arrangement, the Society pays from the treasury for the dinner which is attended by only about a half of the members. The committee may presume that the half of the members who do not attend the dinner are not in favor of paying for those who do attend. A canvass of those who do attend reveals a majority who are in favor of charging a fee sufficient to cover the expense and perhaps to show a profit for the treasury. Some are in favor of reducing the annual dues by a corresponding amount, while others hold that the Society could make use of the extra amount for more worthwhile purpose. However, the opinion of the minority who favor the present status must still be taken into consideration. But they must consider that, due to present conditions, no longer do all the members who are able gather in old Masonic Hall for a well-earned celebration of accomplishment of a year's work. In fact, the percentage of members attending this banquet is constantly diminishing. Is it then expedient for the entire Society to pay for this minority?

If the majority rules, the anniversary dinner, in the near future, will be paid for by those who are present. However, in deference to the minority, no change should be hastily made in a custom so honored by time.

TO THE EDITOR

Newport Hospital

Newport, R. I., March 15, 1938.

Albert H. Miller, M.D., Editor,
Rhode Island Medical Journal,
Providence, R. I.

My dear Dr. Miller:

Your interesting editorial in the March edition under the caption "No Physician on the Hospital Board of Trustees" prompts me to attempt an answer to your query as to why active staff physicians are not usually members of hospital Boards of Trustees.

Although an exception to the general rule, our policy at Newport Hospital is apparently in line with your viewpoint that at least one active staff member should be on the hospital governing board. The President of our Staff is automatically an ex-officio Trustee, expected to attend all meetings. As our staff officers are elected annually and by long precedent remain in office only two years, there is a fairly frequent change of personnel in the representative from the Staff, and this policy for our institution has proved a happy one for all concerned.

Channing Frothingham, M.D., the Faulkner Hospital, Jamaica Plains, Mass., President of the Massachusetts Medical Society, presented an interesting and perhaps an original grouping of Staff representation last Friday at the N. E. Hospital Association convention in Boston in his discussion of "Staff Committees and Their Relationship to the Trustees." In the course of his discussion he stated his opinion that while he did not favor active staff members on a hospital Board of Trustees, he did think that certain capable physicians who had been members of hospital active staffs or who were Consultants, should be made members of Trustee Boards.

In his book, "Hospital Organization and Management," published in 1935, Malcolm T. MacEachern, M.D., Associate Director, American College of Surgeons, writes (pages 79 and 80), as follows:

"On the other hand, the small body of about seven members may be carefully selected and is found to be more effective. In addition, it is also found that, arising out of this interest in the hospital, the activities of the members are gradually extended until they become a vital factor in the welfare of the community. If broader contact for the hospital is required it may be secured through the appointment of an advisory board which may have as many members as necessary, but such a group can not be authoritative. It is controlled by the governing body. The advisory board must be available when the services of its members are required to supplement the more circumscribed activities of the governing body."

"A number of hospitals report favorably on the practice of having the medical staff represented on the governing body, but this policy is not in accordance with the principles advocated by the American Hospital Association and many hospital

authorities advise against such appointments. Membership on the governing body gives publicity to the individual physician, thereby placing him in a position which he may not have earned by his professional efficiency, and favorably affecting his private practice. There is the further danger that the staff may come to regard the physician member in the light of an inspector who is unduly critical of other physicians and of their work. Such an attitude creates a barrier which prevents any real cooperation between the governing body and the medical staff. Some institutions, believing that it is desirable to have the medical point of view represented on the governing body, appoint a retired physician as a member. There can be no serious objection to this procedure provided the physician selected is one who keeps abreast of medical progress, appreciates the needs of the modern hospital, and refrains from interfering with the administration. Occasionally there is a tendency on the part of the medical representative to express his own personal judgment rather than the collective or group opinion of the body he represents. The problem of securing the medical point of view is best solved not by representation on the governing body but by making provision for the staff to select a committee of its members who will meet in joint conference with a committee of the governing body and the administrator."

Sincerely yours,

HARRY J. DUNHAM,
Superintendent

THE BEHAVIOR OF CHILDREN RECEIVING BENZEDRINE

CHARLES BRADLEY, M.D.
EAST PROVIDENCE, R. I.

Bradley (*Am. J. Psych.* 94:577, Nov., 1937) reports on the effects of Benzedrine Sulfate, administered to a group of 30 "problem" children, aged 5 to 14 years, under very favorable conditions.

The children chosen for the study manifested various behavior disorders, ranging from specific educational disabilities to the retiring schizoid type

and the aggressive, egocentric epileptic. They were observed, without subjective questioning, by a special psychiatric nurse for a period of 3 weeks. Each child received a daily morning dose of Benzedrine Sulfate during the second week, the first and third weeks being regarded as control periods. Twenty mg. was the usual dose, but this varied according to the individual.

Although these children had been receiving the usual intensive training available at the Bradley Home, 14 of them, or 47%, promptly "responded in a spectacular fashion" to Benzedrine Sulfate therapy, showing marked improvement in speed of comprehension and accuracy of performance, together with a keen desire for accomplishment. Eight others showed some improvement. In all cases improvement disappeared the first day therapy was discontinued.

In emotional response, 15 children, or 50%, became subdued. Seven of these were of the erratic and aggressive type, and the author suggests that Benzedrine Sulfate, by stimulating the higher centers, may increase voluntary control in such cases. Seven other children reported a definite euphoria. The remaining 8 had varied responses. One case of agitation and two cases of anxiety were observed.

In spite of the "attractive results obtained . . . and the apparent low toxicity of the drug," the author concludes that it is too early definitely to recommend Benzedrine Sulfate in the general treatment of pediatric behavior problems, and that additional studies should be made in this field.

LEUKOPLAKIA AND TOBACCO

F. RONCHISE, M.D.
PROVIDENCE, R. I.

Ronchese reports two identical cases of Leukoplakia Buccalis, also very improperly called "smoker's palate," one involving a heavy smoking man and the other a non-smoking woman, to suggest that there is no proof that tobacco is a direct cause of Leukoplakia Buccalis as it is maintained by the great majority of the authors.

Archives of Dermatology and Syphilology, 36:1222, December 1937.

RHODE ISLAND MEDICAL SOCIETY**Budget Approved January 20, 1938**

Collations and Annual Dinner.....	\$700.00
Expenses of Secretary.....	85.00
Printing and postage.....	200.00
Fuel	600.00
Gas	45.00
Electricity	95.00
Telephone	100.00
City water	15.00
House supplies and expenses	350.00
House repairs	300.00
Janitor	720.00
R. I. Medical Journal	450.00
Safe Deposit	7.00
Treasurer's Bond	25.00
Librarian	1,660.00
Delegate to American Medical Ass'n.	100.00
Medical Library Association Dues	10.00
Sunday Lectures	125.00
	<hr/>
	\$5,587.00

INCOME FOR 1938

Annual Dues	\$4,700.00
Interest from Harris Fund	210.60
Interest from Morgan Fund	25.80
Providence Medical Association	450.00
Use of Building	75.00

\$5,461.40

Balance in Bank Jan. 1, 1938	1,744.48
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\$7,205.88**HARRIS FUND**

26 shares Nicholson File Co.....	\$54.60
General Public Utilities Co.....	156.00
Mortgage Security Corp. of America

\$210.60**JAMES R. MORGAN FUND**

43 shares Providence Gas Co.....	\$25.80
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WOONSOCKET MEDICAL SOCIETY

The regular meeting of the Woonsocket District Medical Society was held February 8, 1938 at 8:00 P. M. at "LaMartinique." After the usual supper, a business session was held.

Dr. E. Parker Hayden gave a very interesting and comprehensive lecture on "Diseases of the Rectum and Colon." The lecture was thoroughly illustrated with lantern slides.

PROVIDENCE MEDICAL ASSOCIATION**Minutes of the February Meeting**

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Alex. M. Burgess, on Monday, February 7, 1938 at 8:40 P. M.

The minutes of the last meeting were read and approved. Their applications having been approved by the Standing Committee, the following were elected to membership:

Eugene Norton Granger

George Harold Alexander

Dr. Francis J. McCabe read an obituary of the late William C. McLaughlin. It was voted to spread this on the records and to send copies to the family and to the Rhode Island Medical Journal.

Dr. Edward S. Cameron reported two cases of disease of the small intestine, one a case of obstruction due to Meckel's diverticulum, and the other a tumor of the small intestine causing intussusception. The pathological specimens were demonstrated.

Dr. Wilfred Pickles read an obituary of the late Harvey E. Wellman. It was voted to spread this on the records and send a copy to his family and to the Rhode Island Medical Journal.

The scientific program was on the subject of "Pneumonia—A Medical Emergency." The first paper was given by Miss Esther Brintzenhoff and was entitled "Bacteremia in Pneumonia." The second paper of the evening was entitled "Non-specific Measures in the Treatment of Pneumonia" and was presented by Dr. Charles F. Gornily. Dr. Maxwell Finland gave the third paper which was entitled "The Specific Treatment of Pneumococcus Pneumonia."

The papers were discussed by Doctors John C. Ham, William S. Streker, Leo Cohen, and William H. Higgins.

The meeting adjourned at 10:55 P. M.

Attendance 180. Collation was served.

Respectfully submitted,

HERMAN A. LAWSON, M.D., *Secretary*

Rhode Island Association of Record Librarians

The regular meeting of the Record Librarians' Association of Rhode Island was held in the Medical Library at 3:30 P. M. on February 17, 1938.

There were ten members present, Elizabeth M. Bingham presiding. A letter was read with reference to the meeting of the New England Hospital Association to be held at the Statler Hotel, Boston, Massachusetts, on March 11, 1938. A motion was made and seconded that due to the fact that most of the members will be attending the N. E. Hospital Association meeting, the regular meeting for next month be omitted. Questions were read and discussed. There being no further business, the meeting was adjourned.

Respectfully submitted,

MARY NUNEZ, *Secretary*

REPORT OF THE MILK COMMISSION OF THE PROVIDENCE MEDICAL ASSOCIATION

Certified milk in Providence during 1937 was obtained from the following farms: Cocumcussoc Farm, Wickford, R. I.; Cherry Hill Farm, North Beverly, Mass.; Fair Oaks Farm, Lincoln, R. I.; Ferrycliffe Farm, Bristol, R. I.; Hampshire Hills Farm, Wilton, N. H.; Walker-Gordon Farm, Charles River, Mass.

Through the courtesy and cooperation of the Boston Commission we have accepted their certification of two farms from Massachusetts and one from New Hampshire. During the year Ferrycliffe Farm of Bristol, R. I., has been certified by the Commission. This farm, which is owned by Dr. and Mrs. Halsey DeWolf, has been in continuous operation for 61 years and is producing an excellent grade of Jersey milk. During these years the herd has always consisted of pure bred registered Jersey cattle.

Bacteriological and chemical examinations of certified milk are made in the laboratories of Brown University under the supervision of Professor Charles Stuart. During the year experiments have been carried on to determine the presence or absence of B-Coli in milk and some of this work has been done on certified milk. The potency tests on the Vitamin-D milk have been carried on in the laboratory of Professor Philip Mitchell and all tests showed a minimum of 400 U.S.P. units per quart.

During the summer the Commission was fortunate in having Mr. B. J. Brown of the National Headquarters spend several days in Providence visiting and inspecting the three local farms under our direct supervision. His helpful suggestions have been of great value to the Producers and members of the Commission.

All of the herds are under State and Federal supervision and are free from Tuberculosis and Brucella abortus infections. Pamphlets concerning the qualities of certified milk have been given to new mothers and the commission is sending out a series of letters to members of the Providence Medical Association and the Rhode Island Dental Society stating the essential facts of this milk. In this way we hope to acquaint the members of each society with the excellence of certified milk and bring about a wider distribution of this product.

The personnel of the Commission includes Drs. Harold G. Calder, Chairman; Reginald A. Allen, Francis V. Corrigan, Banice Feinberg, William Hindle, Henry E. Utter, George W. Waterman, Raymond L. Webster of the Rhode Island Dental Society and Reuben C. Bates, Secretary and Treasurer.

MONTHLY AVERAGES OF CERTIFIED MILK FOR YEAR 1937

	COCUMCUSSOC			CHERRY HILL (H. P. Hood)			FAIROAKS			Pasteur- ized	FERRYCLIFFE			HAMPSHIRE HILLS (Whiting's)			WALKER-GORDON		
	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.		B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.
January	4.2	13.02	1,978	4.2	13.00	3,712	5.2	14.32	4,168					4	12.85	2	3.9	12.56	3,600
February	4.4	13.24	3,086	4.2	13.03	1,912	5.1	14.28	2,000					4	12.80	0	4	12.74	1,925
March	4.2	13.04	3,616	3.9	12.70	1,687	5.4	14.60	737					3.9	12.82	0	4	12.69	1,900
April	4.4	13.24	2,044	3.9	12.73	2,820	4.5	13.50	2,716	79				4.1	12.94	0	3.9	12.61	2,740
May	4.4	13.18	3,687	3.9	12.74	1,975	4.5	13.03	1,868	8				3.9	12.83	0	3.9	12.53	2,250
June	4.5	13.29	4,466	4	12.74	2,962	3.9	12.33	3,816	13				3.9	12.66	0	4	12.63	3,075
July	4.5	13.03	3,905	3.9	12.66	3,210	4	12.71	8,955	653	4.6	13.63	15,628	3.9	12.48	0	4.1	12.68	2,740
August	4.3	13.04	2,222	3.9	12.57	3,650	4.4	13.13	2,555	38	4.7	13.75	12,511	3.9	12.36	16	4.1	12.75	4,250
September	4.4	13.20	3,150	4	12.68	2,450	3.9	12.79	3,355	37	5.6	14.64	805	3.9	12.59	11	4	12.66	3,600
October	4.5	13.55	1,506	4.1	12.97	2,875	4.1	13.12	4,875	225	5.8	14.32	1,506	3.9	12.54	25	3.9	12.57	3,800
November	4	12.76	4,555	4.1	12.85	3,337	4.4	13.37	1,483	287	5.8	14.77	2,005	3.9	12.46	7	4	12.57	3,450
December	4.3	13.18	2,178	4	12.69	7,500	4.1	13.47	1,350	922	5.6	14.73	4,485	4	12.64	5	4	12.77	2,825
Yearly Average	4.3	13.14	3,026	4	12.78	3,174	4.4	13.38	3,156	251*	5.3	14.30	6,156	3.9	12.67	6*	3.9	12.64	3,012

*Pasteurized

Rhode Island Hospital

SCHEDULE FOR APRIL, 1938

Thursday, April 7, 1938

Gyn Staff Meeting, 8:30 P. M.

Friday, April 8, 1938

G. U. Staff Meeting, 7:30 P. M.

Surg. Staff Meeting, 8:30 P. M.

Tuesday, April 12, 1938

Clinical Path. Conference, 12:00 noon

Tuesday, April 26, 1938

Clinical Path. Conference, 12:00 noon

Mondays

Surgical Grand Rounds, 10:00 A. M.

I Surg. Grand Rounds, April 11, 25

II Surg. Grand Rounds, April 4, 18

Thoracic Clinic, 4:30 P. M.

Tuesdays

Gastro-Intestinal Clinic, 9:30 A. M.

Surgical Grand Rounds, 10:00 A. M.

I Surg. Grand Rounds, April 12, 26

II Surg. Grand Rounds, April 5, 19

Wednesdays

Tumor Clinic, 10:00 A. M.

Thursdays

Orthopedic Grand Rounds, 9:00 A. M.

Thoracic Clinic, 11:30 A. M.

Gyn. Path. Conference, 11:30 A. M.

Fridays

Fracture Grand Rounds, 11:00 A. M.

Pediatric Grand Rounds, April 8, 22,
11:00 A. M.

Skin Clinic, 11:30 A. M. O. P. D.

Saturdays

Neurological Grand Rounds, 9:00 A. M.

Medical Conference, 10:00 A. M.

Dr. Frank J. Logler of Newport, graduate of Rhode Island State College and of Vanderbilt Medical School, began a two years internship at the Rhode Island Hospital on March 15. Dr. Logler spent a month as Interne at the Providence Lying-In Hospital.

Dr. Gilmore W. Soule, Interne at the Rhode Island Hospital for the past two years, has left for his home at Augusta, Maine. Dr. Soule is a graduate of Harvard Medical School.

On March 16, 1938, at the Providence Lying-In Hospital, to Dr. and Mrs. Lawrence T. Minish, a son, Lawrence Thaddeus Minish, 3rd. Dr. Minish is an Interne at the Rhode Island Hospital.

Woonsocket Hospital

The monthly Clinico-Pathological Conference was held February 28th, 1938. Final disposition of a case previously presented by Dr. G. G. Dupre was made. The autopsy failed to show any gross pathological condition. However, microscopical examination of sections of various organs proved the presence of miliary tubercles of the spleen, adrenals, kidneys and of mediastinal gland. Strangely enough, sections from the lungs and intestines did not reveal this condition.

The first case to be presented at this meeting was by Dr. Victor H. Monti. It was a case of Agranulocytic Angina of four weeks duration. Worthy of mention is the blood count. The white blood cell count dropped to 600 cells and for the past two weeks has remained near 1400 cells. This case will be further discussed at the next meeting.

The second case, presented by Dr. Thomas J. Lalor, was one of severe jaundice complicating a two months pregnancy.

LOCAL EVENTS*March 6*

The March series of Sunday Public Lectures under the auspices of the Rhode Island Medical Society was opened at the Medical Library by Dr. William Lessel Leet. He spoke on "Food, Weight and Health." Considering the questions why some people are sick and some well, why some are fat and others thin, he demonstrated the influence of diet in these conditions. The speaker was introduced by Dr. George L. Young.

March 10

At the meeting of St. Joseph's Hospital Staff Association, held at the Nurses' Auditorium at 8:45 P. M., Dr. Frederick H. O'Brien, Professor of Radiology at Tufts Medical School, spoke on "X-ray Treatment." Dr. William J. Butler opened the discussion.

March 11

The William W. Keen Medical Club, entertained by Dr. Eric Stone, considered the subject, "Prontylin."

March 13

Dr. Francis L. Burns gave a public lecture at the Medical Library. His subject was "The Com-

mon Cold and Its Complications." Among prophylactic measures, he emphasized the duty of those suffering from colds to avoid infecting others. For treatment, he stressed the importance of rest in bed and proper diet. Drugs should be used only on the advice of a physician. The lecture was illustrated with lantern slides. Dr. George L. Young presided.

March 15

The local group of members of the American College of Physicians held a special meeting at the Peters House of the Rhode Island Hospital at 5 P. M. Dr. Shields Warren of Boston spoke on "Recent Advances in Pathology of Diabetes." He showed a remarkable collection of lantern slides, many in color, illustrating the histology and pathology of the Islands of Langerhans. Dr. Charles F. Gormly presided and introduced the speaker.

March 15

The Amos Throop Medical Club was entertained by Dr. Herman C. Pitts. His subject was "Cancer of the Breast." Dr. Philip Batchelder presented the X-ray features and Dr. B. Earl Clarke demonstrated the pathological conditions.

March 18

The Providence Child Guidance Clinic and the Rhode Island Society for Mental Hygiene held an open meeting at the Medical Library at 4 P. M. Dr. Frederick H. Allen, Director of the Philadelphia Child Guidance Clinic, spoke on "Problems in Child Development."

March 18

Dr. Frederic V. Hussey entertained the Friday Night Medical Club. His subject was "Some Surgical Conditions of the Large Intestine." The paper was discussed by Dr. Arthur T. Jones, Dr. Guy W. Wells, Dr. Eliot A. Shaw, and by the members of the Club.

March 20

With the title "The Conquest of Pain, Plague and Pestilence," Dr. Albert H. Miller gave the third of the popular lectures at the Medical Library. In an account of modern medical progress he paid tribute to Dr. Charles V. Chapin for his work on sanitation in Providence. Dr. George L. Young presided and introduced the speaker.

March 21

Dr. Francis H. Chafee entertained the Thirty-four Medical Club. Professor Robert H. George was guest speaker.

OBITUARY

WILLIAM CHARLES McLAUGHLIN, M.D.

Dr. William Charles McLaughlin died at St. Joseph's Hospital on December 6, 1937, from a relapse of a duodenal ailment which had troubled him for nearly a decade. He was in his fifty-eighth year. He was born in Providence, January 19, 1880, the son of James H. and Mary McLaughlin. He received his early education in the Providence public schools, graduating from Classical High School at the age of seventeen. He matriculated at Brown University, became a member of Alpha Chapter of Phi Kappa fraternity, and graduated with the class of 1901. He then attended Harvard Medical School, from which he obtained an M.D. cum laude in 1905. After serving a general internship at the Carney Hospital and a full service at the Massachusetts Eye and Ear Infirmary, he terminated his medical training with a period of six months at the Massachusetts General Hospital, in the Nose and Throat Out-patient Department.

In September, 1908, Dr. McLaughlin opened an office on Broad Street, in Providence. From the start it was manifest that he was destined to be one of the leading specialists in his field of practice, a position he maintained to the time of his death. He served on the Eye and Ear Department of St. Joseph's Hospital for fifteen years and a like number as Consulting Surgeon. From the advent of his career up to 1933 he was a member of the Staff of the Eye, Ear, Nose and Throat Service of the Rhode Island Hospital. He was Aural Surgeon at the Charles V. Chapin Hospital from its establishment and Aural Surgeon-in-Chief from 1922. He was elected a member of the Commission of the Charles V. Chapin Hospital in 1934 and was its secretary at the time of his death. In the early days of his practice he was a member of the old School Committee and served two terms.

He was a member of the Providence Medical Association, the Rhode Island Medical Society, the American Medical Association, a Fellow of the American College of Surgeons, the New England Ophthalmological Society, and the New England Otological and Laryngological Society. He was a member of the Knights of Columbus and had attained the Fourth Degree, the Columbus Club, the Benevolent and Protective Order of Elks, the Friendly Sons of St. Patrick, the Irish Kings and the Round Table Sunshine Club.

In 1913, he married Catherine Rosemary Learson, of Roslindale, Massachusetts, a graduate nurse of the Long Island Hospital, the Boston Infants Hospital and the Massachusetts Charitable Eye and Ear Hospital. From this union there were seven children, five surviving:—Mary M., William C., Jr., Paul F., Arthur L., and Richard R.

Dr. McLaughlin was fearless in verbal combat and sought quarters of no antagonist, however exalted. No one ever questioned the sincerity of his friendship, the dependability of his word of honor. His native Irish wit stood him in good stead. Augmented by this gift his keenness in diagnosis and his operative skill placed him among the leading contemporary specialists in his field of action.

This society has lost a noble character, his wife a respected husband, his children an honored father, his father a distinguished son.

WILLIAM HINDLE, M.D.
FRANK MCCABE, M.D.

HARVEY E. WELLMAN, M.D.

Harvey Elijah Wellman was born in Providence on September 16, 1892, the son of D. Henry Wellman of South Attleboro and Emma I. (Wilson) Wellman of Providence. He obtained his preliminary education at Miss Baker's school on Almy Street and Moses Brown School, from which he graduated in 1910. Following this he attended Williams College, graduating in 1914 with the degree of B.A. He then did graduate work in chemistry at the Massachusetts Institute of Technology for two years, leaving there to accept a position with the Glenlyon Dye Works at Saylesville, Rhode Island. With the outbreak of the war, he resigned his position to join the United States Navy as a Pharmacist's Mate, serving with the Rhode Island Hospital unit, U. S. N. Base Hospital No. 4, first at Newport and later at Queenstown, Ireland. He was honorably discharged in January, 1919, and became Chemist in charge of the printing laboratory of the Dupont Company at Penn Grove, N. J. This position he held for two years, leaving to accept a similar appointment with the United States Finishing Company in Providence.

From the time of his service with the Base Hospital, his interest in medicine increased steadily, and in 1922 he decided to leave the field of chemistry and become a physician. He accordingly entered Harvard Medical school in that year and graduated

in 1926, following which he served a two years' internship at the Rhode Island Hospital. The next year he spent as Resident Physician at the same institution. The routine duties of this position he performed faithfully and well, but in addition, he was chiefly instrumental in effecting the much needed reorganization of certain departments; a task calling for tact and courage as well as persistent effort.

Dr. Wellman entered the private practice of medicine as an internist in 1930, and from that time on he made himself increasingly felt as an influence in the medical life of Providence. He was a member of the Staff at the Rhode Island, Charles V. Chapin, and Homeopathic Hospitals, and also served on the Staff of the Division of University Health of Brown University. He was a member of the Providence Medical Association, the Rhode Island Medical Society and the New England Heart Association; and was a Fellow of the American Medical Association and the American College of Physicians. He was one of the founders of the Thirty Four Medical Club of Providence. He was also a member of the University Club of Providence.

His death came suddenly as the result of an overwhelming gastro-intestinal infection on October 20, 1937.

Dr. Wellman never lost the seriousness of purpose which impelled him to become a physician at a relatively late period in his life, and the breadth of his educational experience was reflected in his personality. He cared for college boys and old people with equal felicity, and his patients were his friends. Stevenson's description of the Physician might well have been written for him. "Generosity he has, such as is possible to those who practise an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Heraclian cheerfulness and courage. So that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing."

WILFRED PICKLES, M.D.
PAUL C. COOK, M.D.

GEORGE EDWARD CLARK, M.D.

Dr. George Edward Clark, who was for a number of years a member of this Society, but who for reasons of failing health was unable to attend its meetings often, died on March 14, 1936, after a long illness.

He was born in Harsham, Sussex County, England, April 6, 1863. He received his preliminary education in private schools of this country and England and entered the University of Maryland in 1885, graduating with the degree of M.D. in 1889. After graduating, he took an internship at the Johns Hopkins Hospital, another year's internship at the New York Foundling Hospital, and then established himself in private practice of medicine in Skaneateles, New York. On April 9, 1892, he married Frances Anna Underhill, who survives him.

Throughout his many years of general practice it was always the psychological aspects of the patient's disease which intrigued him most. Working independently, he came to the conclusion that he had to treat the individual as a whole, a point of view which is being stressed more and more as time goes on. About 1928, he returned to hospital work, taking a position at the Rhode Island Hospital for Mental Diseases at Howard until ill health terminated his period of service there. After a course of treatment, he came to Butler Hospital in March, 1930. Here he continued his psychotherapeutic work and was instrumental in the cure of many seriously afflicted patients. The influence of his point of view was felt throughout the institution. He enjoyed nothing better than to sit down and explain his philosophy of psychiatry.

Dr. Clark was a member of the American Association for the Advancement of Science, the American Psychiatric Association, the Rhode Island Society for Neurology and Psychiatry, and the Providence Medical Association.

Unfortunately, there are not many in this audience who knew Dr. Clark personally, but all those who did have that opportunity, feel a deep sense of loss at his passing.

NILES WESTCOTT, M.D.

IRA C. NICHOLS, M.D.

RECENT BOOKS

TWENTY-FIVE YEARS OF HEALTH PROGRESS. A study of the mortality experience among the Industrial policyholders of the Metropolitan Life Insurance Company, 1911 to 1935. By Louis I. Dublin, Ph.D., and Alfred J. Lotka, D.Sc. Cloth, pp. 611. Metropolitan Life Insurance Company, New York, 1937.

This compendium of statistics covers a survey from a health standpoint, of the years 1911 to 1935. After a general discussion of the mortality from all causes, the individual

diseases are taken up. Tables giving the death rates are given in great detail and of unquestioned accuracy. In most instances the population is subdivided by sex and by color. Accompanying these tables is a full but concise discussion, summarizing the information given by the table. In this way the reader is given a perspective of the situation by the text and a detailed study by the tables themselves. In the appendix are given tables of mortality experience and the method of compilation and analysis of data. An excellent index is also included.

The information contained in this well-written volume is, in a way, unique. A mass of data regarding the mortality experience of so large a group of persons over so long a period of time is unobtainable from any other source. It pays a fitting tribute too to the physicians of this country; for the facts definitely show the marked strides made by the profession in combatting diseases, particularly those of childhood, tuberculosis, syphilis, pernicious anemia, not to mention the results seen by the advance of surgery.

It would repay the general practitioner to thumb over this volume in the library, while waiting for a meeting to begin. The specialist will benefit by reading the section in which he is particularly concerned, while industrial and insurance physicians should read it from cover to cover and find it absorbing.

FRANCIS H. CHAFFEE, M.D.

THE TRAFFIC IN HEALTH. By Charles Solomon, M.D. Assistant Clinical Professor of Medicine, Long Island College of Medicine. Cloth, pp. 393, \$2.75, Navarre Publishing Company, Inc., New York, 1937.

Dr. Solomon in this book discusses with a good deal of detail most of the types of frauds, fads, and fancies that are ever present and luring the less well-informed to spend their money and neglect their health. In his introduction he states that there are no secrets in Medicine, that proprietary "remedies" can be classified under five general heads as follows. 1. Mixture of obsolete or incompatible drugs. 2. Drugs that may be beneficial in palliating certain symptoms, but perhaps only under specific circumstances that the physician alone is able to judge. 3. Completely irrational mixtures. 4. Harmful drugs or mixtures of same. 5. Pure economic fraud. He is careful to state that in contrast to a proprietary "medicine," which may be quite exemplary, a proprietary "remedy" or nostrum is a secret preparation not sold for what it is but on a basis of what it is supposed to do.

Most of the remainder of the book deals with specific examples of these proprietary "remedies," everything from cosmetics to cancer "cures." The uselessness and the dangers of these drugs and the inadequacies of legislation against them are pointed out. There is also an attempt made to reveal to the individual a sane attitude toward disease in relation to himself. This is done by depicting and explaining many of the common symptoms of disease and telling what should be done for them. A good deal of interesting and valuable information is presented but the style is wordy and rather documentary.

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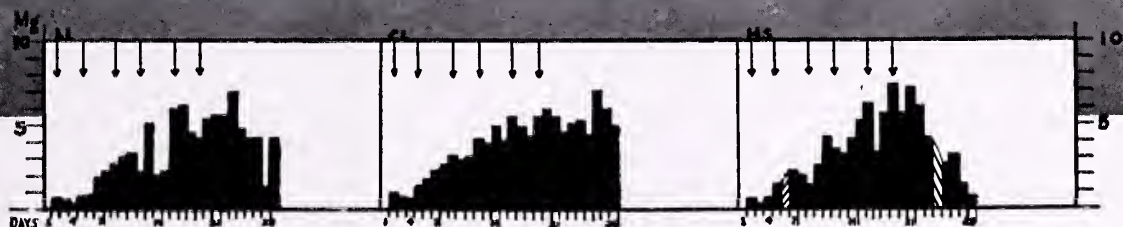
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¹ Sollmann, T., Cole, H. N., Henderson, K., et al.: *Amer. J. Syph. Gon. & Ven. Dis.* 21:480 (Sept.), 1937.

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Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60*

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Briefly, the exhausting operation is accomplished by mechanically passing the open can containing the raw food through a so-called “exhaust box” in which hot water or steam is used to expand the food by heat and drive out air and other gases contained in the food and in the can. The

times and temperatures used in commercial exhausting operations will naturally vary with the nature of the product (1).

After exhausting, the can is immediately permanently sealed, heat processed and cooled. During cooling, the contraction of the heated contents of the can creates the vacuum normally present in commercially canned foods.

With certain products, instead of exhausting as described above, the same effect is produced by preheating the food in kettles or similar devices; filling into the cans while still hot; and immediately sealing the containers. With still other products, an exhausting effect is produced by adding boiling water, syrup or brines to the food in the can. In some instances, exhausting is accomplished by mechanical rather than by thermal means. Specially designed sealing or “closing” machines are used to withdraw air and other gases by applying high vacuum to the can and immediately sealing on the cover.

Such in brief are the purposes of commercial exhausting operations and the means by which they are usually accomplished. Modern canners recognize that these operations are most important to the success of their canning procedures. They appreciate that only by strict supervision and control of exhausting operations can the quality and nutritive values of their products be maintained at a consistently high level.

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(1) *Appertizing or The Art of Canning*,
A. W. Bitting, The Trade Pressroom,
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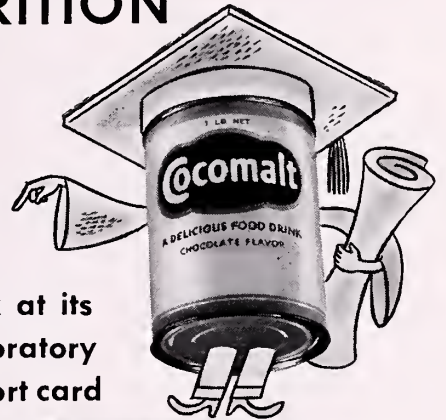
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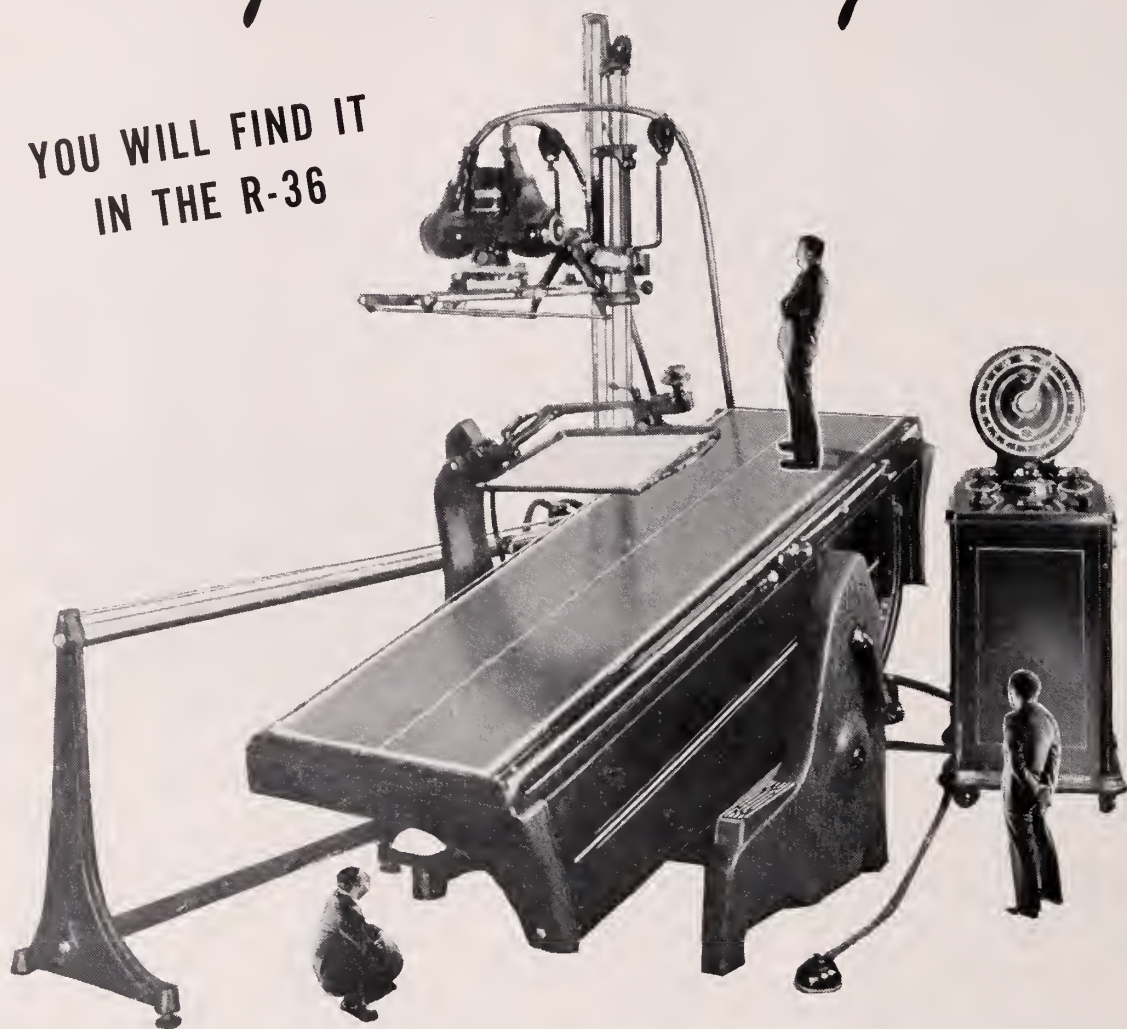
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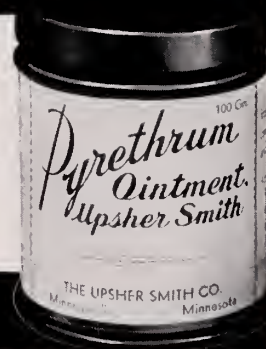
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PSYCHIATRY AND THE CRIMINAL LAW

CHARLES A. WALSH, LL.D.

JUSTICE OF THE SUPERIOR COURT

PROVIDENCE, RHODE ISLAND

I approach this subject with distrust of my own power to deal with it satisfactorily as it cannot be treated without a degree of medical knowledge to which I make no pretension. The subject has excited a controversy between the medical and legal professions and many cruel things have been said on both sides. The heat and vehemence of these controversies make discussion difficult. The lawyer's definition of a psychiatrist reads: "A psychiatrist is a gentleman and a man of science who, under circumstances often found trying to the coolest mind, is attempting to state unfamiliar and in many cases unwelcome doctrines to which he attaches the utmost importance." The psychiatrist's definition of the lawyer: "*****."

So, in our talk this afternoon, we shall try to discuss calmly and dispassionately, we hope, the relation of psychiatry to the criminal law and of psychiatrists to its administration.

Both civil law and criminal law have many points of contact with medicine which give rise to medico-legal problems. In solving these problems it is obvious that the most complete co-operation of these professions is urgently required in the public interest. Mutual confidence and understanding are essential conditions of such co-operation. I regret to say that up to quite recently suspicion and misunderstanding have existed between the American lawyer and the psychiatrist. The lawyer is sceptical of the psychiatrist's knowledge and the psychiatrist, distrustful of the lawyer's purposes, believes that the lawyer has no genuine desire to utilize him and his knowledge in dealing with problems of crime. The psychiatrist contends that the law and legal procedure are based upon an antiquated and out-moded conception of the etiology of human behavior and of the nature of the human mind and personality. He deals harshly with the concept and

criteria of criminal responsibility and the way in which criminals are dealt with by legal processes.

The treatment of offenders is the chief point of contact between criminal law and medicine and criminal responsibility must be discussed not so much for its own sake as for its bearing upon the relations between medical men and lawyers. A discussion of the nature of criminal law is pertinent. Criminal law describes many and diverse kinds of behavior to which it gives such names as murder, rape, arson, larceny, etc., and prohibits them. It provides who shall be responsible for such prohibited behavior and how they shall be treated if guilty thereof. If legally responsible for such prohibited behavior, the culprit shall be dealt with in diverse ways. If legally irresponsible by reason of mental defect or disease, the culprit shall be released or confined in institutions for the mentally deficient or mentally ill. It is obvious that the chief problem here is:

(1) What behavior *ought* to be made criminal, and

(2) What *ought* to be done with the criminal and these, in turn, depend upon a more fundamental question,

What end criminal law should serve.

What end criminal law should serve has been answered in two ways:

(1) It *ought* to mete out punishment, as retribution for crime, and

(2) It ought to serve the welfare of the state, the common or political good.

Psychiatrists display a remarkable unanimity of opinion about legal problems. I dare to suspect that such unanimity is due to their desire, wholly unconscious of course, to find something upon which they can agree. The criminal law operates for them as a sort of escape mechanism. At any rate, the unanimous opinion of psychiatrists is that the end of criminal law ought to be what Dr. Glueck has called

the social security rather than punitive retribution. Now, do I dare to say in this company that in my humble opinion the psychiatrists have stated the end of the criminal law much too narrowly, that the problem is in no sense a medical problem and that medical men have no special competence to discuss it?

The retributive and non-retributive theories of criminal justice *are not* based on different conceptions of human behavior or of human personality but upon different conceptions of *justice*. This problem cannot be resolved in terms of any knowledge or ideas to be found in psychiatry. Justice must be defined in ethical terms. It is concerned only with the rightness of the individual utterly apart from his goodness as a citizen and the welfare of the state. Punishment is justified to correct the erring human will. We can all agree that criminal law should serve the common good and not the end of punitive retribution. It should also be a means to public welfare and should aim to prevent crime. Criminal law has not the singleness of purpose that characterizes medicine's attitude towards disease. The lawyer is constantly confronted with problems of social values with which medical men do not have to contend. As Dr. Glueck points out in his essay on "Analytic Psychology and Criminology," the problems of the medical men are problems of method only.

Criminal responsibility is a question of whom it is just to punish. Behavior that is immoral should be made criminal, we all agree, but crime is not immoral unless the culprit was a free moral agent at the time of its commission, that is, that having the capacity to choose between right and wrong, he freely chooses the wrong. Some psychiatrists contend that this theory assumes a freedom of will which human beings do not possess. They believe in what they call, "Psychological Determinism." Determinism, as the lawyer understands it, means the absolute rule of cause and effect, that nothing happens which is not caused. Freedom of will means the rule of deliberation. To act voluntarily, or with a free will, is thus only to act after deliberation. The law assumes that only normal men, being normally rational, have freedom of will in the sense of capacity to act deliberately. It does not assume that their behavior is without cause or antecedent conditions. The criminal law holds a person incapable of guilt if

- (1) He had no capacity to deliberate, he was bereft of reason.

- (2) Having capacity to deliberate, he lacked knowledge relevant to deliberation, that is, he did not know his act was wrong.
- (3) Having capacity and knowledge essential to deliberation, he lacked ability to choose between doing and not doing the act.

In these cases he cannot be said either to be a free moral agent or to have exhibited a vicious will. This statement includes the legal right and wrong test and the so-called irresistible impulse test. Psychiatrists condemn the right and wrong test and criticize the law's failure to recognize partial responsibility, the variations in the capacity for deliberation and self-control and there may be some merit in these criticisms. Criminal law does not define "insanity." It defines responsibility and prescribes those irresponsible by reason of mental defect or disease. Law does not distinguish between kinds or degrees of mental disease nor does it place any limit whatsoever upon the knowledge or experience which psychiatrists may employ in forming opinions as to the effect of any type of mental disorder upon the capacity of persons accused for lack of deliberation or self-control. Doctors do not have to consider popular notions as to how the sick should be treated but the law does have to consider them as to how criminals should be treated. Thus, it can be readily seen, the problem of criminal responsibility is one of the chief irritants in the relations between the lawyer and the psychiatrist. The lawyer believes, rightly or wrongly, that the psychiatrist does not understand and does not wish to understand this problem, that he is determined to impose on the law his own notions of responsibility and does not assist in the determination of such responsibility according to legal standards; that he confounds what is and what in his opinion ought to be.

What is the field of the psychiatrist then in the treatment of offenders and the prevention of crime? The chief purpose of the criminal law at the present time is not to reform or rehabilitate criminals. Crime may be prevented by (1) incapacitation; (2) reformation; (3) deterrence. Potential offenders can be deterred by (1) instilling abhorrence for crime; (2) through fear of being treated like criminals, and (3) satisfying desire for revenge on particular criminals. The chief reliance of the criminal law at present is on incapacitation and deterrence, rather than reformation. The doctors, on the other hand, recommend greater emphasis on reformation. Reformation depends upon whether the one to be reformed is corrigible or incorrigible,

and (2) what means can bring such reformation about. Legislators, lawyers and judges are ignorant as to the satisfactory answers to the above problems. Can the doctors answer them? I do not believe such knowledge exists. But assuredly criminal courts are not social clinics for the rehabilitation of the criminal. In the absence of knowledge, we should regard what we may do in the nature of an experiment to gain knowledge. Here psychiatrists can be of inestimable value in contributing their wisdom, insight, experience and informed judgment to the creation of a public opinion sympathetic to the high purposes of psychiatry in this particular field. An interesting step in this direction came to my attention on Sunday last. In the Federal Reformatory at Chillicothe, Ohio, a special laboratory presided over by a specialist in mental diseases is about to open. The study is the inmate who finds himself driven to crime when he "knows better." Dr. Justin Fuller, prison bureau psychiatrist, says, "These men are marked by an inability to profit by experience. Usually they have a fine brain but it runs like an engine without a governor, by fits and starts, erratic and unpredictable. When men like that go wrong, they are the most dangerous criminals in the world, because they are smart. They are hard to catch and hard to "pin anything on." A great majority of "repeaters" fall into this class of "constitutional psychopaths," sex criminals, hoboes, wanderers unable to hold a job or remain in one place, petty offenders who transgress without any apparent reason. It is hoped that such defects in personality and the inability of adjustment can be attacked with profit. It is a worth while experiment.

My opinion humbly offered for what it is worth is that the solution of the whole problem of psychiatrist vs. the criminal is to turn the erring child into useful paths before he gets set in criminal ways—"to substitute something else for maliciousness and idleness" and I most respectfully propose for psychiatry a concentrated and energetic attack upon "Juvenile Delinquency."

DISCUSSION

DR. HUGH E. KIENE:

Judge Walsh, in his talk this evening, has covered a subject which has caused considerable controversy in the past. It seems that lawyers and physicians have some difficulty in meeting on a common ground. But there must be a place for

medical advice in legal matters, for the physician continues to be called upon to express his views.

In criminal cases, the attorney, either representing the client or prosecuting him, often requests a physician to examine and determine the mental status of the individual accused. Part of the difficulty, as expressed in Judge Walsh's talk, is due to the physician's going beyond the field of medicine. If the physician understands the part he should play, the conflict should be easily dissolved. It is the physician's duty, when called upon, to make as thorough an examination as indicated, in order that he may learn the mental status of the client in relation to the criminal act. After he has determined this, it is his responsibility to give his findings to the court to use as the court sees fit. He should give the results of his findings without prejudice. Whether or not his evidence is accepted by the court should have no bearing so long as he has done his job thoroughly. The physician in medical practice is called upon in a different way as he must learn the nature of the patient's illness and then prescribe treatment. In legal matters he seeks the nature of the client's illness, but the treatment is prescribed by the court.

The physician, through his experience, is in a position to elicit symptoms indicating varying mental diseases. If these symptoms are present, he is justified in saying that the individual is mentally ill. It is always difficult to compare Insanity with Mental Illness as Insanity is not used in medicine, whereas Mental Illness has a more definite meaning to the physician, there being many types of mental disease. I am inclined to agree with Judge Walsh in his statement that, since the physician is unable to outline a more constructive program based on experimental evidence in the treatment of criminals, the present methods should not be too severely criticized. So much for criminal matters.

The great need for further medical studies of conduct exists in the juvenile field where the physician may be of more assistance in the treatment of the delinquent. A great deal of research and hard work are necessary. This work, according to our present knowledge, requires much time and because of this factor may be considered rather impractical. If results can be obtained, the expense, no matter how great, should be worthwhile as, in our present civilization, we believe in assisting those who are ill, and the conduct disorders of childhood should be considered in a similar way to physical sickness.

DEVELOPMENT OF THE HUMAN HEART

ALEXANDER BARRY, A.M.
CAMBRIDGE, MASSACHUSETTS

There is relatively little direct information on the ontogeny of the human heart even from a purely morphological point of view, and due to obvious technical and social difficulties there is none on the functional side. Nevertheless, the simple morphological picture, seen in relation to the ontogeny and phylogeny of whole embryos, enables us to deduce additional data as to the early functioning of the heart. These data are not incontrovertible yet they are so plausible that they give us confidence in the validity of a general hypothetical picture of the functional as well as the morphological cardiac development. Such a picture is valuable not only for its own sake but also because it can be proven or disproven more easily than can a more amorphous mass of theory.

Direct observations on preserved foetuses show that the heart of the human embryo forms very much as does that of other mammals; in fact, the general lines followed are essentially those common to all vertebrates. In brief, according to the accounts of Davis, Mall, Corning, and Fischel, the heart passes through the following stages.

At a very early stage, when the first body segment is being formed, the cardiac area consists of a crescent shaped mass of tissue lying around the head fold. This mass lies between the endoderm and ectoderm and contains many small vesicles which are in the process of fusion. This fusion takes place first in the middle portion of each arm. The rough cavity thus formed is the fore-runner of the pericardial cavity. The upper layer of cells goes to form the pericardial wall, and the lower slightly thicker layer of rapidly proliferating cells forms the cardiogenic plate. This latter is separated from the endoderm and the rest of the mesoderm by a space which is filled with sparsely scattered angioblast cells. These cells seem to be split off from the splanchnic mesoderm, a part of the crescentic cardiac tissue, and will go to form the endocardium or lining of the heart lumen.

By the stage of the fourth pair of body somites, the two arms of the crescent have fused medially, and the pericardial cavity has become continuous and spacious laterally and ventrally. The main feature of this stage is that the heart has apparently

become reversed in its antero-posterior orientation. This has come about by the growth of the head fold which has extended upward and forward. Since the pericardium lay in front of this head fold, it is now pulled anteriorly and is turned over so that the cardiogenic plate now lies dorsal to the pericardial wall.

Longitudinal folds arise along the length of this plate, and extend dorsally towards the pharynx, eventually fusing in the mid line. The tube thus formed is the heart and is complete in the region of the ventricle by the stage of seven body somites. This fusion and attendant elongation of the heart proceeds posteriorly towards the atrium as development progresses. The endocardium forms a plexiform mass of cells, which is for the most part solid in the early stages. Since the endocardium arose from the two lateral horns of the horseshoe of primitive heart tissue, and since the heart was formed by the median fusion of these two horns, the endocardium is in the form of a pair of cords of tissue within the primordium of the early heart tube. These cords fuse together by an indefinite number of bridges. By the stage of six somites these cords have formed two tubes and lie inside the myocardial sheath. Soon these tubes fuse to form one in the region of the ventricle, and the fusion progresses posteriorly as does that of the myocardium. In these stages, of six to seven somites, and of a body length of about 1.8 to 2.0 mm., the endocardium seems to extend out farther than the surrounding myocardium and to lie directly on the endoderm.

The entire cardiac tube starts its asymmetrical bending at about the stage of two somites. C. L. Davis reports that he can distinguish the sulci dividing the heart into its various chambers at as early a stage as that of three somites. Thus, at an extremely early stage, the heart may be divided in its gross anatomy into bulbus ventricle, and atrium. At a stage of two millimeters the human heart is roughly comparable to that of a thirty-two hour chick; at a stage of 3.5 mm. it compares with a heart of a forty-four hour chick.

According to Woolard, Sanabria, and Mall, the special conducting system of the mammalian heart arises first in the region of the posterior wall of the atrial canal—the opening between the ventricle and the atrium. It seems probable that the musculature in this region becomes differentiated to form the atrio-ventricular bundle and the atrio-ventricular node. This change takes place in the sheep at a

stage of from 5 to 7 mm. The Node of Tawara, the atrio-ventricular node, is formed at the 20 mm. stage, at the anterior end of the A-V bundle of His. The branches of the bundle of His and the Purkinje network differentiate at about this time. The conducting system of the embryonic heart has been studied by several workers:—in the rabbit by Girgis and Sanabria; in the calf by Wahlin and Delorenzi; in the sheep by Sanabria; and in the human by Sanabria, Tudor Jones, and Mall. Eyler and Meek gave a good review of some of this material in 1921.

There are no indications of nerves in the heart of the chick until the fifth day of incubation, after all the regions of the heart have been distinct morphologically and functionally for three days. There is little information of a similar nature on the human heart, but we have no reason to doubt that it follows the same general sequence since none of the observations contradict this view.

It is noticeable that in the preserved human embryo there is not a strict correlation between the length of the embryo, the number of somites or pairs of body segments, and the stage of cardiac development. While this is not at all surprising, it does make it impossible to set very precise limits to the development of the whole embryo. It is, therefore, fruitless to attempt to make more than a general correlation at the present time between the development of the heart and the embryo as a whole. The table below gives a few figures taken from Fischel that may help to correlate the age, length, and somite number of the human embryo. These data are of necessity variable since each of these properties varies in development, and since it is impossible to give the age of these embryos precisely, due to the fact that the time of fertilization is unknown in the available cases.

<i>Somite Number</i>	<i>Length</i>	<i>Age</i>
0	1.17 mm.	20 days
2	1.54 mm.	21 days
6	1.80 mm.	.....
8	2.11 mm.	.....
8	2.30 mm.	.....
15	2.4 mm.	.....
32	4.02 mm.°	.....
.....	8.00 mm.°	1 month
.....	20.0 mm.°	2 months
.....	70.0 mm.°	3 months
.....	130.0 mm.°	4 months
.....	160.0 mm.°	5 months

°Crown-rump measurements

Fischel reports that the heart sounds can be heard at the end of the fifth month, and that the pulse of the heart of an embryo of 1.5 cm. is about 60 to 70 beats per minute. However, as has already been noted, there is literally nothing known of the functioning of the early human embryonic heart, and there seems to be no chance that its functional development will ever be watched directly. But there are two ways in which some information can be obtained. One may either apply a certain degree of deductive reasoning to determine the probable functional consequences of the given morphological structure, or one may rely upon the close morphological parallelism between the human heart's development and that of other vertebrates, and assume that the functional parallelism is as close. Let us treat these two in order, very broadly.

Since the embryo is a living organism, it needs an adequate supply of oxygen, and a means of removal of wastes such as carbon dioxide. The mechanism of this gaseous exchange is diffusion in the very early stages, but as the tissues become thicker, the relatively slow process of diffusion becomes inadequate to supply the needs of the rapidly growing cells. We know that this function of transport is carried on by the circulatory system in the adult. Therefore we would expect the circulatory system to be functional at about the time when the heart is a simple tube, without valves, and slightly bent to the right, since at this time the embryo is about 2.5 to 3.0 mm. in length, and is many cell layers thick. If the heart is to beat at this time, and is to act as a pump for circulation of the blood, the beat would probably be of a peristaltic character, since this is the obvious method of making an effective pump of a simple tube. The wave of contraction must start at the posterior end, since this is the direction in which the blood moves in the adult, and it is extremely unlikely that the circulation would reverse its direction during the course of development.

Examination of other vertebrate hearts corroborates this picture, and gives somewhat more information of the earliest contractions. In the case of the heart of the chick embryo the first contractions consist of slight, uncoordinated twitchings or fibrillations in the posterior part of the cardiac tube at a stage when it is slightly bent to the right. Within two hours this twitching has changed to a coordinated beat whose peristaltoid character becomes more and more pronounced as the heart tube increases in length. This takes place some eight to ten hours before the circulation is a completely closed

system. If this is true of the human foetus, the heart begins to beat at a stage of about 2 mm. and has a peristaltoid beat, with the wave of contraction starting at the posterior end. A similar opinion has been expressed by Corning as to the time of the first beating of the heart.

Since there are no nerves in the heart at this time, the beat must be entirely myogenic. This is to be expected, since even in the adult human heart the nerves are purely regulative. It is clear that this type of beat must be changed in some way, since in a large organism the volume of blood to be pumped must of necessity be so large that a tubular heart of relatively huge diameter would be required to pump it. There would also have to be a high blood pressure to enable the blood to be forced through the capillaries efficiently. If the adult were to keep the tubular heart, with its peristaltoid beat, the cardiac muscles would have to contract with force enough to close the lumen of the tube completely against the arterial pressure. This is obviously an inefficient type of construction for a large heart. The change which one would expect from these general considerations actually takes place.

In general outline the beat of the adult human heart is much like that of all adult vertebrates. It is so well known that it requires little or no explanation. The peristaltoid beat has been altered by three morphological developments. The chambers have become enlarged and have become functionally isolated from one another; valves have developed between them; and certain pathways have been differentiated for the conduction of excitatory impulses: the Keith-Flack node, the node of Tawara, the bundle of His, and the Purkinje fibres. Due to these changes the contraction originating in the posterior part of the heart, or sinus, can no longer pass along the entire length of the heart, pushing blood ahead of it. Instead, the sinus, and later its remnant, the Keith-Flack node, contracts, and the impulse passes along specialized fibres to reach all parts of the auricles nearly simultaneously. The auricles contract, the ventricles which are functionally insulated, do not. The impulse passes to the node of Tawara, and after a short pause passes down the bundle of His, and from its branches to the Purkinje fibres and thence to the muscle fibres of the ventricle. Thus the chambers of the heart contract in sequence as units. The pause in the passage of the impulse from the auricles to the ventricles due to the A-V node is important, in that it gives an instant during which the valves can close

and prevent the back flow of the blood. It is interesting to note that in the chick this type of beat has been acquired before the conducting fibres have been differentiated histologically. It is probable that the human embryonic heart behaves similarly. In other words, the human heart probably has attained a chambered type of contraction by the stage of a 3.5 mm. embryo. Therefore it is possible that, from this time on, such functional abnormalities as partial or complete heart block may take place. Such drugs as may be in the mother's blood stream and will pass the placenta may well have an effect upon the foetal heart and consequent effects upon the developing embryo, at a very early stage of embryonic growth. It is very likely that the partial or temporary failure of the circulation to any part of the developing embryo or foetus will produce incomplete growth or differentiation. Such faults may result in abnormalities of the child ranging from minor defects to lethal defects in parts that are not apparently closely connected with the heart.

BIBLIOGRAPHY

- Corning, H. K.: *Entwicklungsgeschichte des Menschen*, Munich, 1925.
 Davis, C. L.: *Development of the Human Heart*, Carnegie Contrib. to Embryol., v. 19, 1927.
 Delorenzi, E.: *Istogenesi del Sistema Conduzione*, Zeitschr. Zellforsch u Mikr. Anat., v. 23, 1935.
 Fischel, A.: *Entwicklung des Menschen*, Berlin, 1929.
 Girgis, A.: *The Development of the Heart in the Rabbit*, Proc. Zool. Soc. London, v. 193, 1930.
 Jones, Tudor.: *The Connection Between the Cardiac Nodes*, Lancet, v. 223, 1932.
 Mall, F. P.: *The Development of the Human Heart*, Am. J. Physiol., v. 13, 1912.
 Sanabria, T.: *Recherches sur la Differentiation du Tissu nodal du cœur*, Archiv. de Biol., t. 47, 1936.
 Wahlin, B.: *Das Reizleitungssystem des Herzens eines embryos vom Rind*, Upsala Lakareforen Forh., v. 39, 1933.

Old News

Primitive races will often hold a photograph the wrong way up. The natives do not hold a photograph upside-down because they cannot understand it, but because they can see it equally well from any angle. In this, logic is on their side, for when you look down on a photograph it is, of course, actually horizontal.

THE GENTLE SAVAGE. Richard Wyndham, William Morrow & Company, New York, 1936.



THE RHODE ISLAND MEDICAL JOURNAL

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STATE MEDICAL EXAMINING BOARD

The unselfish services of the recent Board of Medical Examiners merit recognition by the citizens of Rhode Island. Some three years ago Dr. Edward A. McLaughlin, Director of the State Department of Public Health, asked Doctors Charles F. Gornly, Alex. M. Burgess, and Charles L. Farrell to conduct the examinations for candidates for a license to practice medicine in the State. Not satisfied with the system they found in use, these men, under the leadership of Dr. Gornly, made extensive studies of the methods used elsewhere. Combining their findings with their own good sense, they organized not only a system of practical examinations, both oral and written, but also drew up a list of requirements for admission to the examinations.

Throughout their term of service it has been their aim not to choose men who merely wrote good examination papers, but rather those who by their previous records and by practical demonstrations showed promise of becoming desirable practitioners, the site of examinations was removed from the writing room to the bedside. Here, in addition to the work of making out and correcting examina-

tions, the examiners gave a good deal of their energy every three months in order that the State might be served by the best physicians available.

From the start, these men found that the pressure of work made these duties more than they could carry on in justice to themselves. Dr. Burgess resigned about two years ago and Drs. Gornly and Farrell have long wanted to be relieved of their tasks but have until recently remained on under pressure and at considerable sacrifice of time and energy. May their successors carry on as wisely and conscientiously and with the same determination to act according to the dictates of their own better judgment regardless of any outside influence that may be brought to bear. Theirs is in large part the responsibility of determining whether good men or poor will be admitted to the practice of medicine in Rhode Island.

CHIROPRACTIC

From the dawn of history humanity has been impressed by the phenomenon of laying on of hands. In the past few years a cult has arisen which embodies this act along with the high pressure salesmanship of chiropractic. In a previous editorial in the RHODE ISLAND MEDICAL JOURNAL it was pointed out that this pseudo-science was declared to be not a healing art in two of our more prominent states. Recently the Supreme Court of another state—Iowa—has handed down a decision which should be of interest to us in Rhode Island. A test case was brought by the state against a man by the name of Boston, and carried up to the Supreme Court. Its decision clarifying the law is of great interest for it declared that a chiropractor is not authorized to practice operative surgery or osteopathy, nor can he administer or prescribe any drug or medicine included in the materia medica. Nor is he authorized to practice physiotherapy, electrotherapy, colonic irrigation, or prescribe diets for his patients.

To put it in another form, in Iowa the chiropractor is only permitted to practice "chiropractic." The physician knows only too well that, to practice the healing art to its fullest extent, he must employ every possible aid in diagnosis, and that treatment to be effective must utilize more than his naked hands placed in the region of the spinal column. With that knowledge, it might not be out of place to examine the Rhode Island law regarding chiro-

practic. A cursory glance makes us realize that a powerful lobby is at work, for the statute has been amended no less than four times in the past ten years, and each time it has been to liberalize the restrictions placed on these individuals. Ch. 1067 of the Public Laws of 1927 in part says "Chiropractic is defined to be the science of palpating and adjusting the articulations of the human spinal column by hand, for the elimination of the cause of disease, corrective and orthopedic gymnastics, and dietetics." In 1928, Ch. 1186, Sec. 20, is found: "Such chiropractic physicians shall be entitled to the same services of the pathological and chemical laboratories of the State Board of Health as are available to physicians . . . and they shall be subject to the same duties and liabilities and entitled to the same rights in the practice of their profession as may be imposed or given by law or regulation upon or to physicians of other schools, except that they shall not write prescriptions for internal medication nor practice major surgery."

In 1931 the law is again amended by two important additions. The first defines the art as a manipulation not only by hand but also by "electro-mechanical appliances." Does this mean that the chiropractor may use physiotherapy? It is not clear, for in a later section of the act it states that "every person desiring to practice physiotherapy in addition to chiropractic must" take a special examination. The editor asks this question:—When is the use of electro-mechanical appliances physiotherapy and when is it not?

Here is an opportunity for our Society. The law is vague. It should be clarified, as in Iowa. The Attorney General should be stimulated (it will take more than a suggestion) to bring a test case. The result will be in all probability as it was in Iowa. And once that is done, the cult will die; for a plant which is choked cannot flourish.

THE PROBLEM OF PNEUMONIA SERUM

The season in which pneumonia is most prevalent has just passed. After the smoke of battle has cleared away it is natural to sit back and take account of stock. It is only through honest self-criticism that we grow in wisdom and understanding. Pneumonia cases, above all others, leave one with a feeling that perhaps there was something which could have been done but was not; some

possibility overlooked that perhaps might have saved a life, a life which slipped through our fingers almost before we were aware of the seriousness of the infection.

Great strides have been made in the treatment of pneumonia through the use of serum. We have facilities available which enable us to type the organism within twenty-four hours following the onset of the disease. Now comes the saddest part of the story. It costs between sixty and one hundred dollars to treat a single patient with serum. It is absolutely impossible for the majority of patients to buy this serum. Skilled nursing care is very essential, long and expensive convalescence is practically inevitable. The doctor is in a position where he has to choose between indispensable necessities and a treatment which is financially prohibitive. No wonder the physician spends days of worry thinking that perhaps he has been forced to deny a patient the means of getting well, has perhaps been the helpless instrument of death.

We in Rhode Island are surrounded by states which supply pneumonia serum free of charge. Massachusetts, Connecticut, and New York have a free supply for patients who cannot afford to pay for it. Maine and New Hampshire are about to institute this service; several of the mid-western states are seriously contemplating the institution of free pneumonia serum.

The Department of Public Health of Rhode Island has funds which can be diverted to this channel. Pressure should be brought to bear, every local medical society should make its voice heard. It is only through concerted effort from every member of the Rhode Island Medical Society that this can be brought about. Let's all get behind this vital movement!

TUBERCULOSIS—THE EARLY DIAGNOSIS CAMPAIGN

The attention of the profession of Providence has already been called to the relation of the private practitioner to the campaign against tuberculosis by the letter sent out by the Standing Committee of the Providence Medical Society with the notice of the April meeting. This letter appears elsewhere in this issue. One of the agencies mentioned in this letter as cooperating with the physician, the Rhode Island Tuberculosis Association, is carrying on an "Early

Diagnosis Campaign." To this campaign the profession of the state gives its heartiest approval and cooperation. The eventual success of this great effort on the part of the public spirited citizens who constitute this Association will depend in great part on how the practitioners of the state do their duty. Their twofold responsibility, to the public and to private individuals, is nowhere better exemplified than in this work against tuberculosis.

Among the points worth emphasizing in connection with this work are the following:

(1) The concerted efforts of all agencies have reduced the death rate from tuberculosis to one-third what it was thirty years ago but the annual reduction has become less and less each year and now is scarcely significant at all.

(2) The death rate in Rhode Island is higher than in any other New England state.

(3) This campaign against the disease has been carried out annually every year for ten years but this year it is to be especially vigorously prosecuted in the hope that a real advance can be made.

(4) In all its work the Rhode Island Association, like the other agencies engaged in the struggle against tuberculosis, plans complete cooperation with the private physician, not competition with him.

From the point of view of the practitioner, among the many facts which stand out in his mind as important, the following considerations are of particular value:

(1) Advanced tuberculosis of the lungs must be looked for at all ages.

(2) Early lesions are usually found between the time of adolescence and the age of thirty years.

(3) No physical examination on a young adult or adolescent child is adequate without an X-ray examination of the lungs.

(4) Early diagnosis, usually possible by X-ray only, means checking the disease in the individual and preventing its spread in the community.

(5) The discovery of an active case means an examination of contacts—an investigation to determine to whom and from whom the disease has been transmitted.

(6) Public and private agencies, as noted in the letter already referred to, are at all times available to aid the doctor in the care of the individual and the investigation of contacts.

DOCTOR WILLIAM GROSVENOR

The memory of Doctor William Grosvenor is perpetuated by the Grosvenor Building of the Rhode Island Hospital. In a corridor of the building a bronze tablet states: "This building is given in memory of Doctor William Grosvenor and Rosa Anne Mason Grosvenor by their daughter, Rosa Anne Grosvenor, November 12, 1924." Probably comparatively few realize the wide scope and value of the work carried on day by day in this building: during the past year, 21,404 treatments were given in the physical therapy department; 20,344 patients were treated or examined in the X-ray department. There is also the Doctor William Grosvenor Fund, "established in memory of her father by Rosa Anne Grosvenor, the income to be applied to acquiring appliances and apparatus to assist in laboratory and research work, to aid the development of the X-ray department, to assist in purchasing radium or any special agent, so that patients may receive the benefits of the latest and most approved scientific methods of medicine and surgery. Anno Domini, MCMXXII."

William Grosvenor was born on April 30, 1810, the youngest child of Doctor Robert Grosvenor of Killingly Hills, Connecticut. Doctor Robert Grosvenor was a very well known and successful physician who practiced through Wyndham County for fifty years. The son, Doctor William Grosvenor, after graduation from the Medical Department of the University of Pennsylvania, returned to Killingly and took up the practice of medicine with his father. Upon his marriage to Miss Rosa Anne Mason, he moved to Providence where he continued his practice. On June 26, 1836, Doctor Grosvenor was elected to fellowship in the Rhode Island Medical Society and continued in active membership for the next fifteen years. Then, upon the death of his father-in-law, it became a necessity for Doctor Grosvenor to take charge of the Masonville Cotton Mills, now known as the Grosvenor-Dale Company, and so, very reluctantly, he gave up his practice.

Doctor William Grosvenor died in Providence on August 10, 1888, at the age of seventy-eight years. His great interest in medicine continued until the time of his death. The busy building which bears his name is a fitting memorial to his active and useful life.

PROVIDENCE MEDICAL ASSOCIATION

Minutes of the March Meeting

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Alex. M. Burgess, on Monday, March 7, 1938, at 8:40 P. M.

The minutes of the last meeting were read and approved. The Secretary read a letter from the Director of the Providence Child Guidance Clinic regarding the joint annual meeting of the Providence Child Guidance Clinic and the Rhode Island Society for Mental Hygiene to which all interested physicians are invited. The Secretary read a communication from Dr. Henry E. Utter regarding conferences on pediatrics to be conducted by the State Board of Health during the spring. It was voted that the Providence Medical Association give its approval to these conferences to be held in towns which desire them.

The first paper of the evening was given by Dr. Howard R. Ives and was entitled "The Bacteriology of Clean Abdominal Wounds."

The second paper of the evening, "The Significance of Double Zone Beta Hemolytic Streptococci for the Cow and for Man," was presented by Dr. J. Howard Brown, Associate Professor of Bacteriology at Johns Hopkins University. This paper was discussed by Dr. Charles W. Stewart, Dr. Harold G. Calder, Dr. Alfred L. Potter, and Dr. Thomas W. Grzebien.

Their applications having been approved by the Standing Committee, the following were elected to membership:

John S. Dziob
John Fracasse
Perry Sperber

The Secretary read an obituary of the late Dr. George E. Reynolds. It was voted to spread this on the records and to send a copy to the family and to the RHODE ISLAND MEDICAL JOURNAL.

Dr. Frank B. Cutts made a special report for the Standing Committee and introduced the following resolution:

RESOLUTION OF THE PROVIDENCE MEDICAL ASSOCIATION IN CONCLAVE ASSEMBLED,
....., CONCERNING FEDERAL LEGISLATION
ON FOOD, DRUG, DIAGNOSTIC AND THERAPEUTIC DEVICE AND COSMETIC CONTROL.

Whereas, Recent tragic deaths caused by "Elixir Sulfanilamide," and previous serious illnesses and

deaths attributable to dinitrophenol, cinchophen and other toxic drugs have clearly demonstrated the inadequacy of the regulation over these substances afforded by the Food and Drug Act of 1906, as amended; and

Whereas, No provision is provided in this Act for regulation of the labelling, advertising or sale of diagnostic or therapeutic devices and cosmetics, these being articles which are frequently closely connected with the health of the public; and

Whereas, Even casual perusal of the daily press in most localities, and infrequent attention to radio programs afford numerous instances of advertising in which grossly exaggerated, if not highly fraudulent, claims are made for concoctions of doubtful or at best limited value; and

Whereas, We, as physicians, are concerned primarily with the prevention and cure of disease, and are deeply interested in any legislation that will enable us better to achieve this end; now therefore be it

Resolved by the Providence Medical Association in regular session assembled, That this Association strongly supports the recommendations for legislation included in the Report of the Secretary of Agriculture submitted in response to House Resolution 352 of Nov. 18, 1937 and Senate Resolution 194 of Nov. 16, 1937, these recommendations being, in brief: (1) licensed control of new drugs to insure that they will not be generally distributed until adequate tests have shown them to be safe for use; (2) prohibition of drugs which are dangerous to health when administered in accordance with the manufacturer's directions for use; (3) prohibition of secret remedies by requiring that labels disclose fully the composition of drugs and include warnings as to dangers in their use, and be it further

Resolved, That legislation is much needed for the control of diagnostic and therapeutic devices and cosmetics, as well as for the control of food and drugs; and that any legislation designed to exert control over food, drugs, diagnostic and therapeutic devices and cosmetics should include rigid restriction on all false and misleading advertising of these products or substances; and be it further

Resolved, That in formulating such legislation it is highly desirable that adequate provision be made for the establishment of obligatory legal standards for the strength, quality, purity, etc., of drugs and diagnostic and therapeutic devices, and that in formulating such standards small committees of

pharmacologists, physicians, surgeons or other qualified experts from the best medical schools or research laboratories be consulted for advice; and be it further

Resolved, That this Association is strongly opposed to any division of authority and responsibility for the enforcement of any food, drug, diagnostic and therapeutic device and cosmetic law enacted, and recommends that authority and responsibility under any such law be vested in the Food and Drug Administration of the United States Department of Agriculture; and be it finally

Resolved, That copies of this resolution be forwarded to each Senator and Representative in Congress from Rhode Island, to Senator Royal S. Copeland and Representative Clarence F. Lea, to the director of the Rhode Island Department of Public Health, to the Secretary of the Rhode Island Medical Society, to the Secretary of the American Medical Association, and to a local newspaper published in the city of Providence.

The resolutions were discussed by Dr. Jacobs S. Kelley and Dr. Frank B. Cutts. It was moved, seconded, and voted that the Providence Medical Association adopt these resolutions.

The President announced that a meeting be held in the Peters House of the Rhode Island Hospital on March 9, 1938, at 8 P. M., at which a moving picture taken at the front in Spain demonstrating methods of first aid and medical treatment in the front lines would be shown and to which all doctors and nurses are invited.

The meeting adjourned at 10:40 P. M. Attendance, 95. Collation was served.

Respectfully submitted,

HERMAN A. LAWSON, M.D., *Secretary*

PAWTUCKET MEDICAL ASSOCIATION

Minutes of the Annual Meeting

The Annual Meeting of the Pawtucket Medical Association was held at the Pawtucket Golf Club on Thursday, March 24, 1938. Dr. Evariste A. Cormier, retiring President, presided. Dr. James L. Wheaton was toast master. Dr. Wheaton presented a scroll to Dr. Byron U. Richards as a token of appreciation as Treasurer for sixteen years. Dr. Walter C. Rocheleau, President of the Rhode Island Medical Society, brought the felicitations of the state society and read a paper on "Health In-

surance." Reverend Robert Seilhamer was the speaker of the evening and gave a very interesting talk on "Sampan and Shadows." At the banquet which preceded the business meeting a good time was enjoyed by all.

The nominating committee, Dr. Charles H. Holt, Chairman, Dr. Earl F. Kelly and Dr. Henry J. Hanley, presented the slate of nominations and same were elected:

President, Dr. Charles F. Farrell

Vice President, Dr. Thad. A. Krolicki

Secretary, Dr. John H. Gordon

Treasurer, Dr. Earl J. Mara

Standing Committee, Dr. Evariste A. Cormier

Delegate, Dr. Henry J. Hanley

Dues were voted to be three dollars until January, 1939, and in December another assessment to be made to correspond with the by-laws in changing the fiscal year.

It was voted that the Secretary write to Dr. George J. Howe and Dr. Charles F. Sweet and express regret for their inability to attend on account of illness. It was voted that the Spatula Club be thanked for their donation of cigars for the banquet. Reports of the Secretary, Treasurer and Standing Committee were read and accepted. The meeting adjourned at 12:30 A. M.

Respectfully submitted,

THAD. A. KROLICKI, M.D.,
Secretary

LOCAL EVENTS

March 22

Dr. Laurence Ellis addressed the monthly meeting of the Staff of the Homeopathic Hospital of Rhode Island. His subject was "Intravenous Medication."

March 27

At the Medical Library, Dr. Edward S. Brackett spoke on "Facts for Future Mothers." Dr. George W. Waterman gave a talk on "Cancer Problems."

March 28

At the meeting of the Malpighi Medical Club Dr. Wilfred Pickles read a paper on "Regional Enteritis," illustrated with lantern slides. Professor Pietro Campellue of the University of Padua gave a short talk on "Present Social Medicine in Italy."

April 8

Dr. F. Ronchese entertained the William W. Keen Medical Club. He read a paper on the subject "Differential Diagnosis in Dermatology," illustrated with lantern slides.

April 6-7

More than 2000 guests attended the Open House held by the Rhode Island College of Pharmacy at the building on Benefit Street, Providence. There were lectures and demonstrations on the varied topics taught at the school, an exhibition of many pharmaceutical agents, some of them in process of manufacture, an elementary demonstration with the microscope of bacteriology, histology and pathology, a motion picture film showing "The Discovery of Etherization."

April 12

Dr. Albert H. Miller entertained the Amos Throop Medical Club with a paper on "Introduction of Anesthesia in 1846." The paper was illustrated with lantern slides and was discussed by Dr. Edward S. Cameron, Dr. Elihu S. Wing, and by the members of the Club.

April 15

The Friday Night Medical Club was entertained by Dr. Herman C. Pitts. Dr. Merrill Moore of the Boston City Hospital and Harvard Medical School addressed the club on "The Psychiatrist and the Patient." Tracing the history of the treatment of mental disease in the past century, he stated that, twenty years ago, 85% of the patients suffering from paranoia died during the first year, and indicated the successful results of modern treatment. The subject was discussed by Dr. James A. McCann and by the members of the club.

April 18

Dr. Frank B. Cutts entertained the Thirty-four Medical Club. Professor Charles A. Stewart of Brown University presented a paper on "Recent Trends in Bacteriology."

April 21

The regular monthly meeting of the Staff Association of St. Joseph's Hospital was held in the Nurses' Auditorium at 8.30 P. M. Drs. John C. Corrigan and Edwin B. O'Reilly presented the subject "Practical Aspects of Anemia."

AMERICAN COLLEGE OF PHYSICIANS

The meeting of the American College of Physicians, held at New York City, April 4-8, 1938, was

attended by Drs. Alex. M. Burgess, Charles F. Gormly, William S. Streker, Elihu S. Wing, Niles Westcott, Henry L. C. Weyler, Herman A. Lawson, Francis H. Chafee, Frank B. Cutts, Morgan Cutts, Louis I. Kramer, John F. Kenney, Ezra A. Sharpe, John C. Ham. Dr. Alex. M. Burgess read a paper on the subject:—"Oxygen Therapy."

Rhode Island Hospital

SCHEDULE FOR MAY, 1938

Thursday, May 5:

Gyn. Staff Meeting, 8:30 P. M.

Friday, May 6:

G. U. Staff Meeting, 7:30 P. M.

Surg. Staff Meeting, 8:30 P. M.

Tuesday, May 10:

Clinical Path. Conference, 12:00 noon

Wednesday, May 18:

Nurses' Graduation, Aldrich House, 8:30 P. M.

Tuesday, May 24:

Clinical Path. Conference, 12:00 noon

Monday, May 30:

Holiday

Mondays:

Surgical Grand Rounds

I Surg. Grand Rounds, May 9, 23, 10:30 A.M.

II Surg. Grand Rounds, May 2, 16, 10:00 A.M.

Thoracic Clinic, 4:30 P. M.

Tuesdays:

Gastro-Intestinal Clinic, 9:30 A. M.

Surgical Grand Rounds, 10:00 A. M.

I Surg. Grand Rounds, May 3, 17, 31

II Surg. Grand Rounds, May 10, 24

Wednesdays:

Tumor Clinic, 10:00 A. M.

Thursdays:

Orthopedic Grand Rounds, 9:00 A. M.

Thoracic Clinic, 11:30 A. M.

Gyn. Path. Conference, 11:30 A. M.

Fridays:

Fracture Grand Rounds, 11:00 A. M.

Pediatric Grand Rounds, May 6, 20, 11:00 A. M.

Ped. Grand Rounds, May 6, 20, 11:00 A. M.

Saturdays:

Neurological Grand Rounds, 9:00 A. M.

Medical Conference, 10:00 A. M.

PROVIDENCE MEDICAL ASSOCIATION

To Members of Providence Medical Association:

Tuberculosis is still all too prevalent. In these days when so much money and effort are being spent in attempts to prevent and control diseases of unknown etiology, let us not lose sight of the fact that we have for a long time possessed the knowledge of the cause of tuberculosis and the method for its virtual eradication.

In this war against tuberculosis, a community health and social problem of the first magnitude, many agencies take part. These agencies are willing assistants to the physician who must be the guiding force in the campaign if co-ordination of activity and co-operation of effort are to prevail. The manifest interest of the State and City Health Departments in the tuberculosis problem is known to all. To mention the availability of their full co-operation seems almost superfluous. The Rhode Island Tuberculosis Association is active in educational campaigns and assists in the organization of case finding activities throughout the State; to the Providence Tuberculosis League it makes an appropriation from the Christmas Seal Fund. The work of the Providence Tuberculosis League is diagnostic; it constitutes a first assistant to the physician. At the Chapin Hospital, in addition to the care of ward patients there has been developed an Out-Patient Clinic; a large number of pneumothorax cases are treated. With the enlarged and improved facilities at the State Sanatorium, Wallum Lake, accommodations will be available for a greatly increased number of patients. The Providence District Nursing Association instituted tuberculosis nursing in 1906. Its services are available for the care and instruction of patients and contacts. At present this agency is caring for about 1,700 cases and contacts.

Tuberculosis is a catastrophic illness. Few of its victims or the families of its victims are able to bear the expense of necessary care—the care required not only for the individual patient but also for the family and immediate contacts.

Let us trace a hypothetical case. John Doe visits his family physician because of loss of weight and strength. All he wants is a tonic. He is nervous and irritable and has a cough which he ascribes to cigarettes. The physician suspects tuberculosis. The patient is reluctant to have a sputum examination.

He cannot afford consultation and X-ray examination. He is referred to the Providence Tuberculosis League, where this service is rendered gratis. The diagnosis is definitely established and the patient is referred back to his physician. The services of the Providence District Nursing Association are offered to assist in necessary instruction of family and the rounding up of contacts. An undernourished child in the family is found to be a positive reactor and receives the benefit of treatment at Lakeside Preventorium. The patient goes to the State Sanatorium at Wallum Lake or to the Chapin Hospital. He has been persuaded that institutional treatment with its complete facilities offers him the best chance for recovery and at the same time he will no longer be a menace to his family. He proves to be a suitable case for collapse therapy. In due time he returns home and to work but requires a long period of observation and refills which are carried out at the Thoracic Clinic of the Chapin Hospital. The family and contacts also require a long period of observation and guidance and in this the work of the assisting agencies is invaluable.

In addition to the care of known cases and contacts is the important problem of the finding of unsuspected cases. In this work the Rhode Island Tuberculosis Association is interested and active, especially in outlying communities and the Providence Tuberculosis League in Providence. Let us lend our full support and encouragement to this work—the examination of students, food handlers and industrial workers.

By law all known cases must be reported promptly to the State Department of Public Health. Perhaps a better system would be to require reporting to the local health officer. Although there is excellent co-operation between our city and state health officers, there has been much discussion as to the advisability of this change.

It may seem an elementary statement, but in the final analysis the problem consists of the unceasing education of the public and the co-operation of the physician with the various agencies which have been organized to assist him in the eradication of this terrible scourge. Let us maintain our enthusiasm and lend every effort to keep the machinery running smoothly.

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Ronchese reports a case of a 51-year-old woman showing a progressive atrophy and sclerosis of the skin with subsequent formation of unusual keloids, calcium nodules and bone tissue. The ensemble was not preceded by fevers, trauma, abscesses, fistulous sinuses or other skin diseases but developed without a noticeable cause. A pronounced sclerosis of the breast was also present. This combination appears to be a very rare occurrence.

Acrodermatitis chronica atrophicans, lichen sclerosus, Weber-Christian disease, various forms of sclerosis of the skin, and various types of atrophodermias are discussed. A peculiar feature of surgical interest was the involvement of the breast. Deep dimples, retraction of the nipple and hard lumps strongly suggested malignancy. In the differential diagnosis of a breast condition, with atrophy and scleroderma elsewhere, the rare occurrence of sclerosis of the breast is to be considered and a mastectomy may be avoided.

From the Department of Dermatology of the Rhode Island Hospital.

American Journal of Surgery, 34: 635, March 1938.

RECENT BOOKS

MACLEOD'S PHYSIOLOGY IN MODERN MEDICINE. Edited by Philip Bard, Professor of Physiology, Johns Hopkins University School of Medicine. Eighth edition. pp. 1051, with 355 illustrations. Cloth, \$8.50. The C. V. Mosby Company, St. Louis, 1937.

In the eighth edition, MacLeod's Physiology in Modern Medicine has been almost entirely rewritten. Following the death of Professor MacLeod, this edition has been edited by Dr. Philip Bard, Professor of Physiology at Johns Hopkins University School of Medicine, assisted by eight other investigators. They have presented the most recent accomplishments of the physiological laboratories of the medical schools at Johns Hopkins, Columbia, Yale, the University of Pennsylvania, the University of Maryland, and the University of California. The writers have succeeded both in presenting and in further developing Professor MacLeod's original idea of a work on Physiology and Biochemistry which would be of the greatest practical value to the medical clinician. The scope of the work may be indicated by its 1623 references to medical literature, filling fifty pages of the book. The matter is presented in an interesting style and is generally well written. Here is a work on a basic subject which can be recommended for reading, for study, and for reference.

THE COMPLETE PEDIATRICIAN. By Wilbert C. Davison, M.D. Second edition, completely rewritten. \$4.00, \$3.75 if check accompanies order. Duke University Press, Durham, N. C., 1938.

A compilation of all present knowledge of the diseases of children. The author has collected from recent literature 7,854 references which he analyzes in the light of his experience as Acting Pediatrician in Charge at the Johns Hopkins Hospital and Professor of Pediatrics at Duke University. In this second edition there are new chapters on growth, development, nutrition and infant mortality. The scope and arrangement of the work are encyclopedic. It is recommended to medical students, internes and general practitioners, as well as to pediatricians.

OPERATIVE GYNECOLOGY. By Harry Sturgeon Crossen, M.D. and Robert James Crossen, M.D., Fifth Edition, entirely revised and reset. pp. 1076, with twelve hundred sixty-four illustrations including three color plates. Cloth, \$12.50, The C. V. Mosby Company, St. Louis, 1938.

All students of pelvic surgery are familiar with Crossen's "Operative Gynecology" and Crossen's "Diseases of Women." These two books have been major contributions to American gynecology for many years and rightly so, for in them are discussed the operations of gynecology not only as to their mechanical or technical detail but as to their proper indications. Is the operation necessary? Does the operation contemplated fit the patient as indicated by her age and general condition? Here is no compilation of operations by a "mechanical" surgeon, but rather a consideration of operations and their effects on patients from the widest possible viewpoint, based on thorough knowledge of physiology and pathology and supplemented by that mature judgment in clinical gynecology which comes only through the schooling of experience to the careful, conscientious and self-critical surgeon.

In this the fifth edition the authors have completely revised the edition of seven years ago, bringing in many contributions from the work in clinical surgery of this active period.

Of particular interest is Dr. Crossen's chapter on uterine cancer and its treatment by X-ray and radium. It is of interest to the reviewer that Dr. Crossen has given several pages to the discussion of Cancer Prevention, bringing out the necessity for treatment of the post partum cervix and of periodic examinations.

A chapter on the "Intestinal Tract in Relation to Gynecologic Surgery" by H. S. Brookes, Jr. has been added and is well worth while. The same author has also written the chapter on "Anesthesia." His treatment seems sane and sound.

The chapter on medico-legal medicine is always of interest, and should be read by all who practice surgery.

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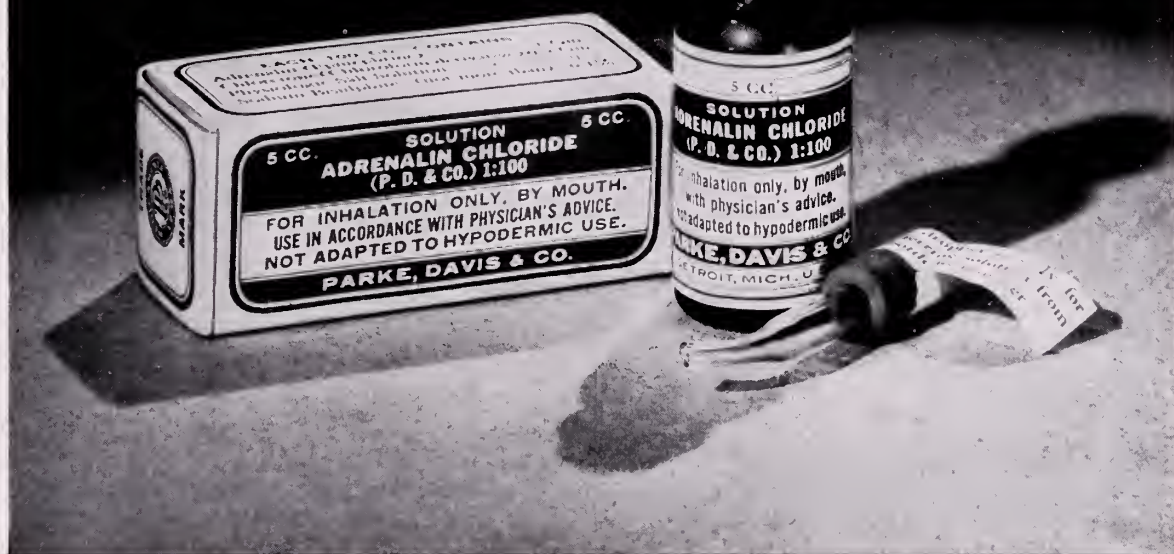
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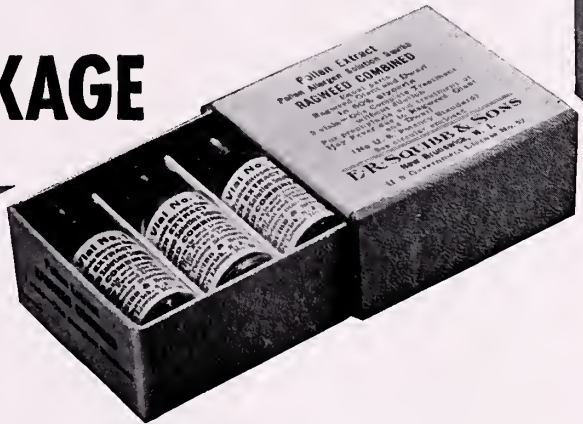
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Physiological Aspects of Diabetic Regimen. By Dr. David L. Davidson
Bacteremia in Pneumonia. By Esther E. Brintzenhoff
Treatment of Pneumonia. By Dr. Charles F. Gormly
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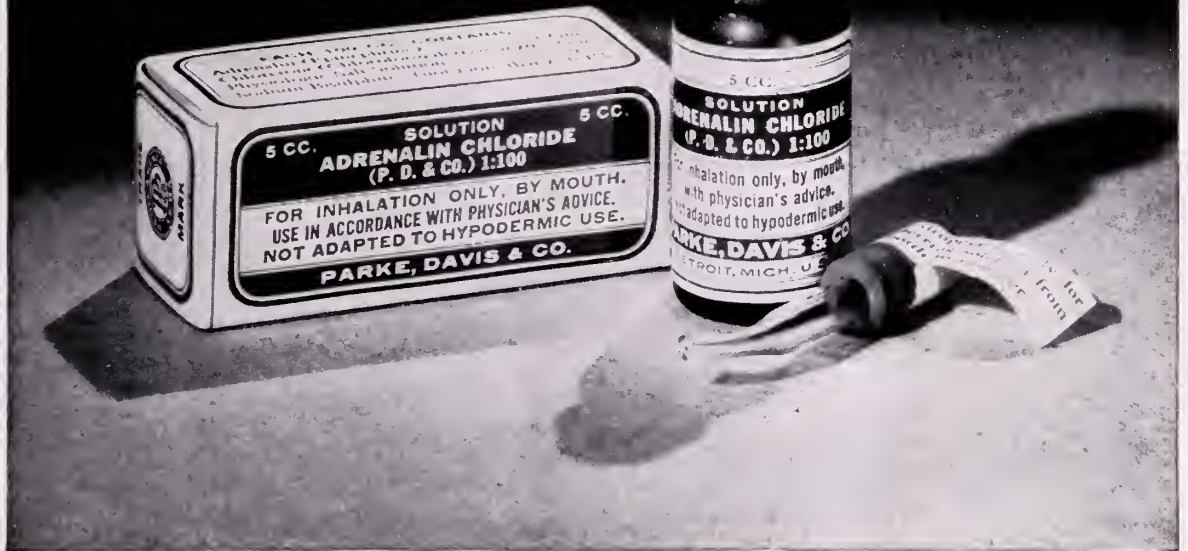
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The manufacture of tinplate and "sanitary" cans is described elsewhere (1).

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In Figure 2 is shown the relation of can to cover before the sealing operation is started; note the relative position of the "curl" on the cover and the "flange" on the can. In this curl, the can manufacturer has placed a gasket or "compound," usually containing rubber. Figure 3 is a series of photographs illustrating the sealing operation in which the curl and flange are first rolled into position and then the layers of metal flattened together to form the final "double-seam" in Figure 4. The rubber compound originally present on the cover supplies the binding material between the layers of metal necessary to insure a permanent or hermetic seal on the container. Figure 5 illustrates in cross-section a closed sanitary can as it comes to the consumer.

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(1) The Story of the Tin Can, American Can Company, New York, 1935



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Beat 3 eggs, season with salt, and add all the Pablum the eggs will hold (about 2 cupfuls). Form into flat cakes and fry in bacon fat or other fat until brown. Serve with syrup, honey or jelly.

Pablum Salmon Croquettes

Mix 1 cup salmon with 1 cup Pablum and combine with 3 beaten eggs. Season, shape into cakes, and fry until brown. Serve with ketchup.

Pablum Meat Patties

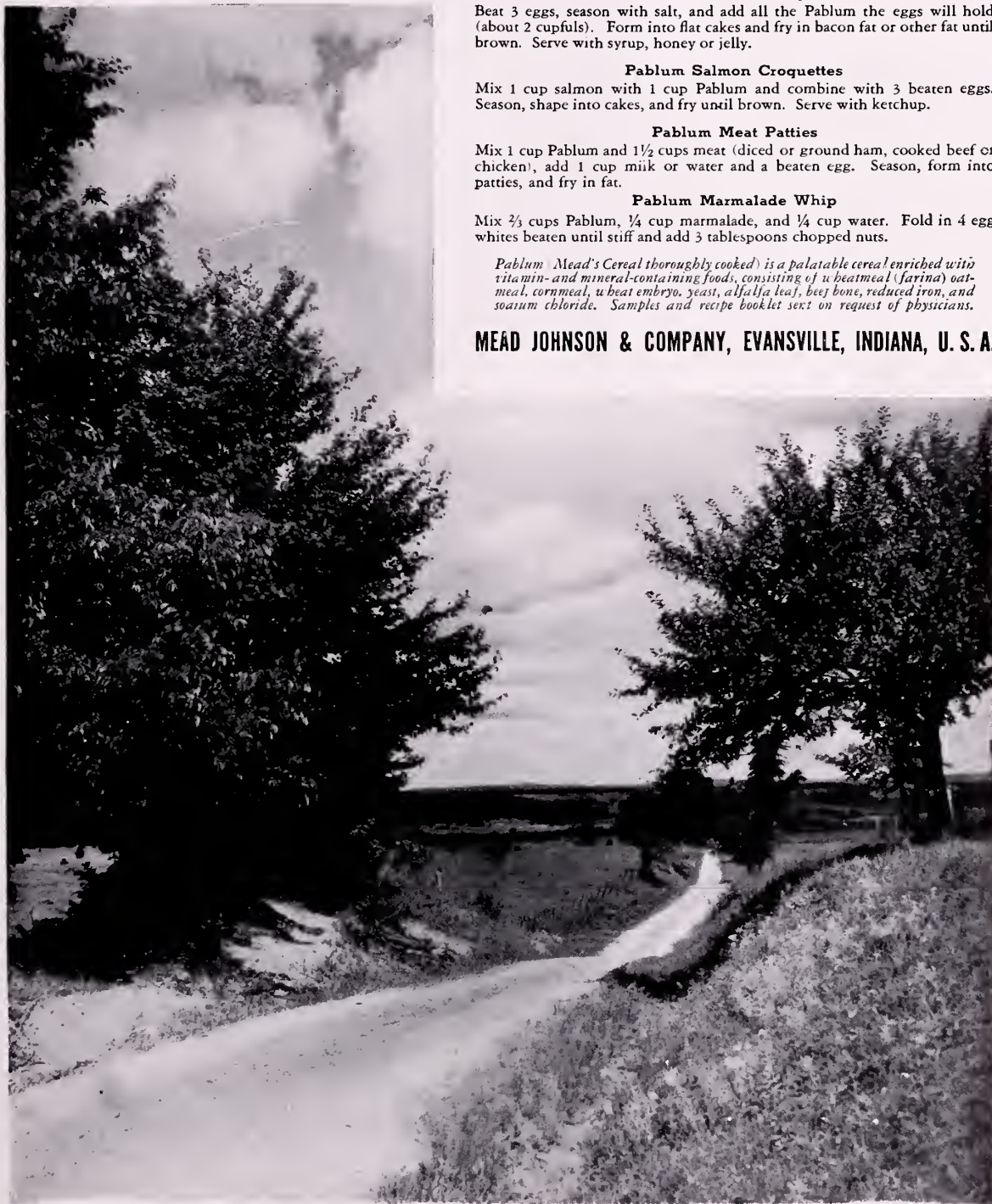
Mix 1 cup Pablum and 1½ cups meat (diced or ground ham, cooked beef or chicken), add 1 cup milk or water and a beaten egg. Season, form into patties, and fry in fat.

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Mix ¾ cups Pablum, ¼ cup marmalade, and ¼ cup water. Fold in 4 egg whites beaten until stiff and add 3 tablespoons chopped nuts.

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NON-SPECIFIC MEASURES IN THE TREATMENT OF PNEUMONIA

CHARLES F. GORMLY, M.D.
221 THAYER STREET, PROVIDENCE

Two agents which closely rival specific measures in the treatment of pneumonia have gradually been developed. These are sugar and oxygen. We must all agree that with less than an adequate amount of oxygen and sugar in the blood even serum of the specific type will fail. As we look over the past twenty-five years it is astonishing to note our increasing use of oxygen. In my early days oxygen was never thought of until the patient was at death's door, either deeply cyanotic or unconscious. I seriously doubt that it was of much value as practically every case in which it was so used went on to a fatal termination.

The factor which has contributed most to our appreciation of the value of oxygen in the treatment of pneumonia comes from our increasing knowledge of anoxemia. In pneumonia there are several elements which contribute to anoxemia; fever, which speeds up metabolism with its marked increase in the consumption of oxygen; consolidation, which reduces the ventilation area of the lungs, obstruction of the air passage by mucus, abdominal distention, pleuritic effusion or collapse of part of the lung, shallow breathing to escape the pain of pleuritis, and anemia, which the patient may have in varying degree.

In a fair percentage of cases the increase in the pulse and respiratory rate may keep the blood-oxygen content at a safe limit, but with the first suggestion of cyanosis, best found in the nail beds, oxygenation is incomplete. The indications for the use of oxygen are cyanosis of the nail beds spreading to the mucus membranes, a pulse over 130, and respiration climbing over 36. In this condition early and continuous use of oxygen are essential. It may be necessary to continue it even after resolution has started if anoxemia is still evident. It is to be remembered that there is no storage of oxygen in the body. Lastly it must be given in sufficient concentration to accomplish its purpose.

There are many methods of supplying oxygen to attain these objectives. The oxygen room would be ideal were it not for the very serious danger of fire and the prohibitive cost. In most instances, some form of tent is satisfactory. The Burgess Box has more advantages and fewer disadvantages than any other present method. The catheter method with the tube well down to the pharynx may be satisfactory; various types of mask are on the market. The important factor is to get a concentration of oxygen into the lungs sufficient to completely relieve cyanosis. For this purpose it is desirable to use the large industrial 6000 liter cylinders with regulator and pressure gauge. The oxygen flow gauge is absolutely necessary. The rate of flow depends on the clinical requirements, probably about 4 liters per minute. It may vary from time to time in the same individual as his respiration rate changes.

In most hospitals it has been found desirable to specially train one or more attendants to set up the tents, regulate the gauges, handle the oxygen and be responsible for its satisfactory use. In the home, where the oxygen team is not available, it is highly desirable to get a trained nurse of sufficiently recent vintage to be familiar with these modern methods of using oxygen. As the nasal catheter requires frequent removal for cleansing she must know where the tip should be. She must understand the gauges, know the fire hazard in using oxygen, watch the ice and wash bottles, change the soda lime.

Now I take up fluids given intravenously and particularly sugar solution. While my own experience has largely been with glucose solution there is reason to believe that sucrose may at times be of advantage. The intravenous administration of fluid in pneumonia may not always be required, but for the most part our management of pneumonia has definitely improved with the free use of venoclysis. There are many indications for venoclysis, with dehydration probably the most important. If the dehydration is severe with marked loss of electrolytes by sweating or vomiting then certainly

saline solution plain or with glucose is indicated. This question of salt must be balanced nicely as excess of salt may produce œdema and consequently increased work for the heart. For a very sick patient who is taking fluids only fairly well 1000 cc. of 5% glucose in saline twice daily may be adequate. It should be given slowly. In severe dehydration more than this may be required to restore skin turgor. Concentrated sugar solution, 100 cc. of 50% glucose, in threatened pulmonary œdema is easily the best heart stimulant we have. The advantage of sucrose over glucose is its more prolonged action. However, I feel that we see much less pulmonary œdema since we have been using early oxygen and adequate sugar. It is also notable that we rarely get the chills and fever reactions, that formerly were so common with intravenous solutions, since we have been using commercially prepared solutions.

I would like to return now for a moment to the question of nursing. At times I feel that as a factor in handling pneumonia, nursing rates in importance with serum, oxygen, and glucose. When possible the place to treat pneumonia is the hospital, but it must be early and not on the 5th or 6th day. The obvious advantages are the ease of sputum typing, frequent blood cultures and x-ray facilities. The disadvantage of the hospital is the effort of moving the patient from his home. If kept at home a special Goetch bed should be provided; a day and night nurse are desirable. Twelve hours with a sick pneumonia case is as much and perhaps more than any nurse can stand. Eight hour shifts are better if funds are available. As previously noted pneumonia nurses should be familiar with oxygen equipment.

An attempt should be made to maintain the caloric requirement by a liquid and very simple soft solid diet. Fruit juices and sweet drinks help to maintain the water balance and supply essential carbohydrates. I know of an excellent clinician who insists on a quart of orange juice a day exclusive of all other foods, to keep up the liver glycogen, supply vitamin C and aid in maintaining fluids.

For the pain of pleurisy adhesive strapping or a binder may solve the problem. I am still very partial to a large old fashioned flaxseed poultice. A word should be said for artificial pneumothorax in intractable pleuratic pain. At the present time I personally see no other indication for this procedure. Diathermy also has its advocates. We should not

forget cupping which is still in favor in many European hospitals. Codeine rather than morphine is in my opinion the drug for pain and for excessive exhausting cough. I use codeine although I believe cough mixtures are among the least important measures in handling these cases. Sedatives may be needed but sedation is apt to be overdone. Any drug that depresses the vital centers or the cough reflexes may do harm. For restlessness, insomnia or delirium, chloral and bromides are the best drugs but should be used only if absolutely necessary.

With reference to the question of alcohol in the treatment of pneumonia opinions still vary. I use it in some cases though Dr. Burgess has tried hard to reform my opinion. My tendency is to use it less and less. In habitual users it probably does more good than harm. In those unaccustomed to its use it may produce restlessness and gastric upsets. I see no value in its use as a preventive. About digitalis my ideas are quite definite. A few years ago we gave it as routine believing that it was good therapeutics to protect the heart. Increasing evidence indicates that in the normal heart digitalis is a toxic irritant. I now use it only in the presence of fibrillation and threatened or actual congestive failure. Coramine and caffeine as emergency heart stimulants are the present vogue.

Sulfanilamide we have used many times with results that were often convincing and again disappointing. I have used it mostly in type 3 cases or when we have been unable to determine the type. There have been occasional desperate cases where it seemed to be life saving. A great amount of experience with this drug is being collected and all the evidence is not in. We are also beginning to see some of its untoward effects. I now have a patient with a markedly depressed bone marrow that seems to have resulted from this drug. Streptococcus beta pneumonia should have sulphanilamide. I shall continue to use it in type 3 until specific type 3 rabbit serum is available. I might add that many are using sodium bicarbonate with this drug because of its tendency to reduce the CO_2 reserve and produce acidosis.

For distention we are now using very high concentrations of oxygen, 95%. This we get by closing the top of the Burgess Box and testing the oxygen concentration at the patient's mouth. Our experience is very encouraging. I wish to close with a very brief mention of the use of the X-ray as a non-

specific measure. This year at the Rhode Island Hospital, Dr. Burgess and myself are attempting a series of cases and controls to test the value of this procedure. We are handicapped somewhat by the apparent good health of this community and our experience, so far limited to a few cases, could mean very little in evaluating it.

BACTEREMIA IN PNEUMONIA

ESTHER E. BRINTZENHOFF, A.B.,
CHIEF TECHNOLOGIST, RHODE ISLAND HOSPITAL
PROVIDENCE

New developments in the treatment of pneumonia require identification of the invading organism. For a long time we have depended almost entirely upon the examination of the sputum to furnish this information, but recently it has been found that blood cultures can be of vital importance in furnishing the necessary data.

In some cases, it is not possible to obtain a satisfactory specimen until late in the course of the disease and sometimes it is difficult to decide which of several organisms in the sputum is the responsible agent. In these instances a blood culture, if positive, can clear the uncertainties and make it possible to start specific treatment promptly.

The blood culture is important, too, as a guide for the adequate administration of serum, because cases in which bacteremia is present require additional quantities of serum. And finally, it serves as a prognosis,—a large number of organisms per cubic centimeter being a poor prognosis.

Suitable culture media and a satisfactory technic are essential if best results are to be obtained and since it has been noted that bacteremia frequently does not occur until the fourth day of the disease, blood cultures should be repeated on at least three successive days unless the temperature has returned to normal.

At the Rhode Island Hospital the media in use for two years is one especially favorable to the growth of pneumococci, streptococci and other delicate pathogens. Because of the manner in which it is made, accessory factors similar to vitamins are not destroyed but remain to enhance the growth of these pathogenic bacteria.

There is one essential point in technic. The amount of blood inoculated into the media should be kept relatively small, yet should be large enough to provide growth. If the proportion of blood to media is too great, the blood clots and the bacteria may become too much embedded within the clot to allow free growth. Moreover, large quantities of blood may carry enough antibody to retard growth of the organisms.

The technic used is as follows: 2-5 c.c. of whole blood are added at the bedside to 30 c.c. of media in a 50 c.c. flask. Approximately 5 c.c. of blood are added to 1 c.c. of 2% citrate solution in normal saline contained in a test tube. The flask is incubated immediately and the citrate mixture is divided into two equal portions and plates prepared with melted North Gelatin Agar. These plates show if the culture contains more than one organism and the number of colonies developing indicates the degree of the bacteremia. If the broth becomes contaminated the plates may still provide the results. Frequently the broth shows growth when the plates do not.

If a suspected case of pneumonia is admitted to the hospital outside of regular laboratory hours, flasks of media are provided so that the intern may plant the culture immediately. Frequently cultures taken in this way and examined the following morning make it possible to report the type of pneumococcus within 15 hours of admission and before a sputum specimen has been obtained.

The following cases are cited in illustration:

Case 1. A 13-year-old boy admitted to the hospital December 21, 1937, with the following history: Chill 3 days before admission followed by cough and pain in left chest. Temperature 105° by rectum. Blood culture obtained at 11 A. M. Sputum not obtained. Dec. 22, 1937, blood culture positive for Type I pneumococci and serum administered just 24 hours after admission. Vital signs improved but fluid developed in left chest pushing mediastinum to the right. Repeated taps removed much fluid which became progressively thicker. Rib resection done and cavity drained on December 30, 1937. Patient's temperature fell to normal January 2, 1938, just 12 days after admission and remained so. Fluid from chest typed. Type I. At no time was sputum obtained. This case shows that the invading organism can be determined even though a sputum specimen can not be obtained.

Case 2. Patient admitted to hospital December 15, 1937. Blood culture taken and put into incuba-

tor at 1 A. M. December 16, 1937. Examination of culture at 9 A. M. showed no growth. At 4 P. M., 15 hours after incubation, pneumococci found and typed. Type 7. Serum administered with good results. In this case the type of pneumococcus had been determined from the sputum specimen, but a positive blood culture within 15 hours showed the presence of a bacteremia and made more adequate treatment possible.

Case 3. Patient receiving treatment in Accident Room had a chill and was admitted. Blood culture taken January 11, 1938, remained sterile but one taken January 13, 1938, 2 days later, showed Type 7 pneumococci. Patient received serum and improved. This shows that even though an early culture is not positive a subsequent one may show growth.

During Season

<i>Nov. 1 to June 1</i>	<i>Total Blood Cultures</i>	<i>Positive</i>
1935-36	92	21 or 22.8%
1936-37	107	25 or 23.3%
Nov. & Dec., 1937	39	17 or 43.5%

SOME PHYSIOLOGICAL ASPECTS OF AN EFFICIENT DIABETIC REGIMEN

DAVID L. DAVIDSON, PH.D.
BOSTON, MASSACHUSETTS

In the author's case of diabetes mellitus of twelve years' incidence, data on body weight and insulin intake for the past ten years show, when graphically presented, the indispensability of insulin for the subject. Thus the gradual withdrawal of insulin was accompanied by a decrease in body weight, and the re-establishment of insulin treatment progressively restored the normal weight and physical vigor.

For the past three and one-half years precise daily observations have been recorded, and the data have been summarized and charted on the basis of monthly averages, not only for body weight and insulin intake, but for the composition and caloric count of the diet, for the hours of rest, for the correlation of diet, insulin, and exercise, and for the occurrence of hypoglycemic reactions.

Abstract of thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Graduate School of Brown University, September, 1937.

Comparison experiments with fructose and glucose, especially as present in honey in the comb, extracted unheated, liquid and crystallized, and heated, emphasize the rapid metabolism of such carbohydrates. The experiments show that differences in the metabolism of the two sugars do exist in favor of the fructose, but that these differences are too slight in the final, net result to have any very great advantage taken of them in the regular diabetic dietary.

The self-administration of insulin is facilitated by an injection-site arm clamp, previously described.¹

The heat evolved by an ordinary 40 to 60 Watt "Mazda" lamp is sufficient to boil the mixture used in the qualitative Benedict test for glucosuria (2.5 cc. of Benedict's solution plus 4 drops of urine). A metal jacket is used to surround the upright lamp bulb, and to support three test tubes on top of it. Smooth boiling is promoted by the insertion of a clean pebble or segment of a toothpick in each tube.

In the physiologically efficient diabetic regimen, which is the goal of these studies, the importance of the following appears significant:—

(1) A definite daily schedule, in which insulin, food and water, and both physical and mental activity are properly co-ordinated.

(2) Daily written records of insulin, diet, exercise, rest, weight, and systematic tests for sugar in the urine. Monthly summaries of such records for consultations with the physician, permitting deductions to be made as to what changes in the regimen will increase the efficiency.

(3) The higher carbohydrate diet, of greater antiketogenic power, with the time of eating and the form of carbohydrate so chosen as to enable the patient to assimilate and oxidize it best, with the aid of exercise, and of exogenous as well as endogenous insulin.

(4) Small definite amounts of monosaccharides at least fifty per cent fructose (e. g. as in honey) in the diet, when insulin is taken, and when vigorous exercise comes soon after the meal.

(5) Possibly the slightly better utilization of unheated honey's fructose content, even though crystallization has occurred.

(6) The drinking of from one to three glasses of warm, physiological NaCl solution from one-half to three-quarters of an hour before breakfast,

¹New Eng. J. Med. **217**, 669-70 (1937)

and when further hydration and anti-potassium action are required, of from one to two glasses before the evening meal.

(7) Knowledge of the trend in body weight over the years, as a clue to the proper insulin and diet program to be pursued.

(8) Keeping at nine hours or more the average number of hours of rest per twenty-four hours.

(9) The elimination of hypoglycemic reactions by proper timing of food, insulin, and activity, without producing glucosuria.

(10) Exercise of diverse sorts, to use daily all the muscles possible, in order to keep the number of tissue cells in active carbohydrate metabolism at a maximum.

(11) Minimizing emotional strains of all types, by both psychic and physical adjustments to work and to the environment.

SURVIVAL RATES AMONG PATIENTS WITH ACTIVE PULMONARY TUBERCULOSIS

KATHARINE PARDEE, M.D.
STATE SANATORIUM
WALLUM LAKE, RHODE ISLAND

As an introduction to future reports we offer a brief account of the mortality and survival rates among the adult patients with active pulmonary tuberculosis admitted to the State Sanatorium during the years 1930 and 1931. These years represent the beginning of our present era of therapy and will, therefore, serve as a basis of comparison for future studies. Taken at face value, our mortality rates are very high. If, however, one bears in mind that we admit many hopeless cases in order to remove them, as sources of infection, from their homes and communities the figures will seem less discouraging.

In the year 1930 there were admitted to the State Sanatorium 299 patients with a definite diagnosis of active pulmonary tuberculosis. The following figures are based on the 273 cases who could be traced for five years after their admission in 1930. 58% of these 273 patients were dead within five years. That over one third of these deaths occurred in less than six months after admission is evidence of the number of our patients who are desperately ill when they reach the Sanatorium.

A consideration of the survival rates gives a somewhat more hopeful picture. While only 42% of the 273 patients lived five years after admission, 62% of those alive at the end of one year and 76% of those alive at the end of two years were still alive five years after admission.

Perhaps the most interesting and certainly the most encouraging figures are those for the group of 73 patients who remained at the Sanatorium until discharged, with consent, by the medical staff. Of the 69 traced, 65, or 94%, were still alive five years after admission.

The figures for the 1931 admissions vary only slightly from those for 1930. The five year mortality was 55%. Again over one third of the deaths occurred within the first six months. 63% of those alive at the end of one year and 73% of those alive at the end of two years were still alive five years after admission. 76 of the patients were discharged with the consent of the medical staff. 62 of these were traced and of these, 58, or 94%, were alive five years after admission.

There are many other matters of interest which could be considered in a study of survival rates: the condition on admission of those who survived; the number who received collapse therapy; the subsequent history of those leaving against medical advice; the economic status of the survivors compared with the economic status of those who died after discharge. But in this introductory report we wish to confine ourselves to the simple statistics given in order that we may not cloud the two important points that our study has brought out, namely, the high mortality during the first six months after admission and the excellent prognosis for those who remain until discharged, with consent, by the medical staff.

We must look to the medical profession of the State to assist us in lowering the early mortality by encouraging the patients to come to the Sanatorium before their disease has reached a hopeless stage.

Summary

Because of the large number of hopeless cases admitted as a public health measure, our five year mortality rate is high.

The prognosis is excellent for patients who remain at the Sanatorium until discharged with consent by the medical staff. 149 patients admitted in 1930 and 1931 were discharged with consent. Of the 131 who were traced, 123, or 94%, were alive five years after their admission.



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GROUP HEALTH

There is no doubt that the tremendous broadening of our knowledge of human ailments is threatening the system of individualized medicine. Every new discovery carries with it a challenge to the individual practitioner to increase his studies. To be sure the practitioner of today has a far stronger armamentarium against human ills than he had a few years ago, but still, with few exceptions, he is always well behind the advances in medicine. The natural and proper result has been the development of group practice. The strength of the bonds uniting the constituents of a group varies greatly. At one end of the scale is the man who has his office alone and sends his problem patients to one of several of his colleagues according to the nature of the problem. At the other extreme of group practice is the group that combines in some organized way to consolidate expenses and facilitate consultation. This is generally conceded to be beneficial to the doctor and to the patients although many people consider it unethical in that it somewhat interferes with the free action of its members.

Now of late a further modification of the group plan has come into fairly common usage and has caused no little furor. We speak of what is sometimes called the group health plan. This in brief consists of a group of doctors in quite firm union agreeing to provide without further charge all necessary medical care to those who make stipulated regular payments. That is, they make what amounts to an insurance contract. This plan may or may not include hospitalization for a limited period and certain medications.

The two chief objections to the plan by its opponents are that it is unethical and that the personal relationship between the doctor and the patient is somewhat jeopardized. These claims hardly appear entirely rational. Arbitrarily to call it unethical is to dispense with it without fair consideration. True, if unethical men form a group, the group would more than likely be unethical. On the other hand, if respectable men combine under an honest contract to provide medical care that an individual doctor admittedly cannot give alone, a very definite need is being served. Honest and efficient serving of a worthy cause may diminish the returns of the inefficient but it is never unethical.

The present personal relationship between doctor and patient might be modified by such a plan. But would this be so detrimental? We doubt it. How often we see patients we would like to refer to a man whom we know to be learned in a particular specialty only to have the patient refuse on the grounds that he doesn't like his personality. Again how often we see or hear of patients who are bound by the personality of one we know to be little better than a complete quack. These irrational personal feelings could well stand modification. A happy medium should be set up between the psychological and organic aspects of disease.

The satisfactory working of this plan would protect the patient from the sudden and severe financial burden that generally accompanies serious illness and frequently makes it impossible to obtain satisfactory medical care. Further it permits and encourages the patient to seek expert advice in the early stages of illness or even when no symptoms of illness are present. The tendency would be to rely on the doctor rather than on the drug store or on quack medicine. This stimulus to preventive medicine is perhaps the best aspect of the plan. Of little less advantage to the patient is the fact that the doctor is not restrained from early consultation

by inadequate financial resources of the patient.

This system might have certain drawbacks to the patient. Having signed up he would be largely committed to the members of the group for all his medical care. This would be no disadvantage if all the members were of first class ability, but it is to be expected that most of the groups would have one if not more weak members, and certainly there would be a strong tendency for the doctors not to recommend a consultant outside the group. Another very definite possibility that would work to the detriment of the patient is that the doctor, feeling a certain security within the group, would not give his full interest to a given patient. Of course this security would have another, a beneficial, effect in that the doctor would not have the incentive of financial gain to retain a patient who could better be treated by another.

Having thus far dealt chiefly with what of advantage and of disadvantage the patient can derive let us now consider the doctor's viewpoint. The strict individualist would feel a limitation of expression and action but the broader man would welcome the freedom to consult with his colleagues, and the relative security of the position would permit him to practice according to the dictates of his better judgment rather than according to the fancies and finances of his patient. Except for these factors there seems little doubt that the medical members of the plan would be well satisfied provided they could make a satisfactory living at it. Whether they could or not could be determined with certainty only by trial. There are certain characteristics of human nature which militate against the financial success of such a plan conscientiously carried out. To be successful it requires an exceptional degree of co-operation on the part of both doctors and patients. The clientele would have to be selected with great care and certain limitations provided regarding chronic illnesses and chronic complainers. Otherwise it would be an open field for the chronics and neurotics at the expense of the wholesome and the doctors. Think what a time a good malingerer would have if no bills were issued for doctors' visits. This is where the financial success is likely to break down. Insurance companies with their many years of experience, their well developed statistical departments, their sound financial knowledge and extensive medical study have not yet arrived at a satisfactory solution to health insurance.

Obviously the group health plan has its advantages and its disadvantages. Summarily to condemn it or condone it cannot now be done with justice. To say it is unethical and to ostracize its members merely serves to discourage the worthy from trying an experiment that might go a fair way toward solving many problems. It leaves only those to try it who have nothing to lose by so doing. The natural result would be failure of the plan without a fair trial. If it is to be a desirable thing it must be entered into by the best the profession has to offer. In the final analysis it will be the grade of both the professional and lay members more than the contract which will determine the success or failure of a given group. It would require an almost blind faith in human nature to contract to take care of all the ills of all comers. For practical purposes a person is ill when he wishes to consider himself ill. Many derive exceeding satisfaction in such considerations, which would put the contracting doctor decidedly on the defensive. But, just to bear in mind a regrettable, albeit we hope vague, possibility, even this would be better than putting the medical profession into the hands of some of the politicians that we have in this age.

Rhode Island Hospital

CLINICAL PATHOLOGIC CONFERENCE

PETERS HOUSE, TUESDAY, MARCH 22, 1938
CASES PRESENTED BY DR. CHARLES F. GORMLY

Today we present two cases, both of which were diagnosed as undulant fever, yet neither of them came to postmortem because of undulant fever.

Case 1. E. D., a sixty-year-old American female, married, white, was admitted July 26, 1937. She had been well, except for "shingles" one year previous, until four weeks before entry, when she caught a cold with cough and remained in bed until the day of entry. She had progressive weakness, anorexia, cough, fever and night sweats. There was no sputum, no hemoptysis. Examination found a well nourished, well developed, moderately pale female, coughing occasionally. Temperature, 99.6; pulse, 86; respiration, 26; blood-pressure, 130/75. Examination of the chest was negative except for a few rales at bases of lungs.

LABORATORY FINDINGS:—Hemoglobin, 60; red blood cells, 3.00; white blood cells, 6.200; poly-

morphonuclear leucocytes, 63%; no young forms. Chest X-ray and electro-cardiograph normal. Undulant fever agglutination and two undulant fever skin tests were negative.

Through her stay, the patient ran a semi-undulating fever, on discharge being nearly afebrile. Blood counts did not change appreciably. Three weeks after entry, undulant fever agglutination became positive in 1/640 dilution. Fluid appeared in the left knee. On aspiration, thirty cc. of thick, tenacious pus was obtained, on culture showing bacillus coli and Gram staining, spore bearing rods. No evidence of brucella mellitensis.

The interesting thing about this woman was in the blood. She had this complete change in her blood picture from the previous admission. We based our diagnosis entirely on the blood findings. She was seen by a number of men including Dr. Shields Warren, who consulted with us on the smears and on the patient. The case was diagnosed as a myelogeneous leukemia.

Case 2. D. D., a forty-year-old, white, married female, was admitted May 8, 1937, complaining of rash and fever of three weeks duration. She had been well until the age of sixteen, when she had a severe "colitis" with bloody mucous diarrhoea, ten to fifteen stools daily for several months, and ever since had had occasional milder attacks, supposedly brought on by nervousness and by "acid" foods. She had had very little trouble in recent years. Two months before entry, patient had become "run down" and irritable. Six weeks before entry, she suffered from a right lower molar tooth-ache, with swelling. Her dentist treated this palliatively at first, then by extraction. Three weeks before entry, because of failure to heal, he "scraped the bone." Shortly afterwards the patient developed a generalized maculo-papular rash and moderate fever. The rash and fever persisted with a few remissions until the day of entry. Loss of weight, bowel disturbance, or exposure to infectious disease is not mentioned.

Examination revealed a well developed and well nourished middle aged female weighing 145 pounds, with a generalized red maculo-papular rash, most marked in the extremities. She seemed to be in no distress. Temperature, 104.2; pulse, 130; respiration, 25; blood-pressure, 130/80. Oral hygiene was poor. The tip of the spleen was felt on deep inspiration. The physical examination was otherwise negative.

LABORATORY FINDINGS: Hemoglobin, 74%; red blood cells, 4.42; white blood cells, 8,400; 92% polymorphonuclears, no abnormal forms. The urine, blood cultures, undulant fever skin test and agglutination, Widal reaction, all were negative. The stools were repeatedly negative for occult blood. Gastric analysis showed no free hydrochloric acid.

During her six weeks stay in the hospital the patient ran a semi-undulating fever. She lost twenty pounds in weight. The rash shortly disappeared. Three weeks later the undulant fever agglutination test was positive in 1/320 dilution. Proctoscopy was negative. On discharge, the patient was still febrile.

She was readmitted on January 22, 1938. She stated that during her previous hospital stay and ever since, she had had a non-bloody diarrhoea. Since her discharge her course had been one of continued loss of weight, fever, and progressive weakness. She had lost 50 pounds in weight. Her re-entry was precipitated by a sudden exacerbation of the diarrhoea. Examination showed an emaciated, seventy-pound woman, lying weakly in bed, with a pitifully quavering voice. Her diarrhoea was almost uncontrollable. Temperature, 98.0; pulse, 130; respiration, 18; blood-pressure, 110/80. There were many excoriations on the lower half of the body. Marked dryness of the skin was noted on the upper part of the body, with hypertrophic areas behind the elbows. The hair was dry, coarse and sparse. The eyes were normal. The tongue was atrophied on the edges, beefy in the center. The heart and lungs were negative. The liver edge was down three fingers, smooth, not tender on pressure. Pelvic and rectal examinations negative. There were plantar flexion contractures of both feet. Knee-jerks were equal and hyperactive, bilateral ankle clonus sustained, Babinski and Hoffman reflexes positive, position sense normal.

LABORATORY FINDINGS: Hemoglobin, 88; red blood cells, 4.02; white blood cells, 12,000, 93.5 polymorphonuclears. Blood urea nitrogen, 10. Undulant fever agglutination, 1-40 positive. Urine: albumen, 4+, many red and white cells. Stools, 1+ guaiac.

The patient at first had thirty to forty stools per day, later reduced by paregoric to fifteen. Under intensive vitamin B therapy, she began to pick up strength remarkably, though her condition never rose above poor. On the ninth hospital day she

suddenly took a turn for the worse. She died two days later.

We felt that we might have been dealing with a vitamin deficiency, particularly because of the rash. We knew she had been on a deficiency diet for a long time. I think that her death was somewhat unexpected although she made very little progress on her second admission.

DISCUSSION

DR. JOHN C. HAM:

"It seemed on first admission that both these patients had a very definite undulant fever.

"The question has been brought up as to the possibility of repeated skin tests causing agglutination. In other diseases that can be tested both by skin test and agglutination, a skin test will not cause a markedly positive agglutination. The possibility has also been suggested that the first patient might have had an aleukemic leukemia when she was first admitted.

"The case with extensive diarrhoea is very interesting. When she was in the first time there was nothing that would point to the condition found. In fact, the red blood count and hemoglobin stayed up remarkably well. Was she getting iron or some other drug when she was outside?"

DR. FRANK B. CUTTS:

"These two cases are quite interesting to me because we saw them while I was on service and labeled them undulant fever. In six months they were both dead. It may be that we diagnosed them incorrectly.

"On attempting to tap the knee we were not successful. For the second patient a Benzidine test was ordered but not carried out. With reference to the skin test for undulant fever I consulted Dr. Diens, bacteriologist at the Massachusetts General Hospital. I asked if repeated skin tests would raise the titre to 640. He thought it was possible, as he had seen it and also quoted various reports which supported this point of view. I think it is fair to say that there is some doubt on the point."

DR. GORMLY:

"I think it is very notable that we are discussing a disease that a few years ago was considered a Mediterranean disease—yet it would be just as strange now to present a case of typhoid fever as it was 20 years ago to present a case of Malta fever."

DR. GUY W. WELLS:

"I was going to ask Dr. Cutts if he knew of any cases where the bacillus was grown out from any fluid."

DR. CUTTS:

"An investigator whose name I have forgotten has been able to obtain the bacilli from the joints, but of a much more virulent type than you would get here."

DR. WELLS:

"I don't know of any reports of work done on joint fluid. This first case, I think, is a very good case clinically for undulant fever. I cannot help feeling that some of these cases are made positive by the skin test. Last year we had a man on the ward who was ill long enough to show positive agglutination, yet he was repeatedly negative. We did skin tests on him and they were at first negative. At the end of four or five days the nodules became red and remained hard for a long time and after three or four skin tests he went into a kind of remission. I believe that his agglutination came back quite positive. I could not help feeling that our skin tests had something to do with it."

DR. GORMLY:

"Of course the farmers are talking about undulant fever, but I don't know whether they are doing anything about it."

A.: "They are now. They are destroying the cattle."

DR. GORMLY:

"I have never seen a patient die of undulant fever but my experience is of only about five years. It runs a long, tedious course."

DR. JAMES P. McCAFFREY:

"During the stay in the hospital of the first case, and subsequent to a positive skin test, several indurated areas appeared on both arms. We incised the areas and treated them surgically. The patient also had pulmonary signs on admission; the right chest had been aspirated before she came in. Many of the pioneers in undulant fever have described these cases with pulmonary onset. In my experience there have been several cases which we diagnosed as undulant fever, concerning which I was skeptical, but I was convinced that this patient really had undulant fever."

DR. GORMLY:

"Dr. Murphy took care of her after her discharge from the hospital. She did improve but I don't know whether that was due to the vaccine. Her general condition improved quite a bit.

"I would like to raise the question, if at the first admission she had an aleukemic leukemia, with this present picture, in the hospital, of a myelogeneous leukemia, would that be consistent with a positive quiescent stage of leukemia?"

DR. ROBERT J. WILLIAMS:

"In answer to Dr. Gormly's question as to whether the findings of an aleukemic leukemia in July, 1937, were consistent with the findings we saw in March, 1938, I would off-hand say that they would be consistent but I will have to confess I don't know."

DEMONSTRATION OF POSTMORTEM FINDINGS

Case 1: When we opened the peritoneal cavity, the spleen extended two fingers below the costal margin. This spleen weighs 720 grams as compared to the average of 150 to 200 grams. It is large and soft, shows a rather pulpy surface, and the pulp can be scraped quite easily, as is characteristic of a leukemic spleen.

The rest of the findings showed only a slightly enlarged leukemic liver. The kidneys were large and rather pale and no definite leukemic infiltration could be seen. In the mouth was the lesion seen clinically. The lymphnodes were not involved in this case, so we have definitely a leukemia. The fact that the bone marrow, liver and kidney showed leukemia, and the absence of lymphnode involvement are in favor of myelogeneous leukemia and against lymphatic leukemia.

Case 2: This was a very markedly emaciated individual with a slight amount of fluid in the pleural and pericardial cavities. There was slight pitting edema of the extremities. The interesting finding was when we opened the peritoneal cavity—involving the splenic flexure of the colon was this hard mass fixed to the abdominal wall. Here we have the lesion, an annular, circular lesion composed of very hard, firm tissue, obliterating the architecture of the colon. This is an annular carcinoma of the splenic flexure.

The liver in this case extended about two fingers below the costal margin. It weighs 2,000 grams, as compared with the average of 1,600 to 1,800 grams."

Q.: "Were there any metastases?"

A.: "No metastases other than the extension to the abdominal wall where it was fixed. No nodes were found."

Postmortem diagnosis:

Case No. 1. Myelogenous leukemia.

Case No. 2. Adenocarcinoma of the colon.

PROVIDENCE MEDICAL ASSOCIATION

Minutes of the April Meeting

The regular monthly meeting of the Providence Medical Association was called to order by the Vice-President, Dr. Harry E. Messinger, Monday, April 4, 1938 at 8:30 P. M.

The minutes of the last meeting were read and approved. The Vice-President read a communication from the Rhode Island Nutrition Association outlining its purposes, giving a list of its officers, and inviting any of the members of this organization to attend its first meeting.

The scientific program was a Symposium on Sulfanilamide, presented by the Resident Staff of the Charles V. Chapin Hospital, and consisted of the following papers:—

1. The Chemistry and Mode of Action of Sulfanilamide and Related Compounds, by Edmund G. E. Anderson, Resident Chemist.
 2. Sulfanilamide in the Treatment of Beta-Hemolytic Streptococcal Infections, by Dr. Kalei K. Gregory, Resident Physician.
 3. Sulfanilamide in the Treatment of Other Infections, by Dr. Raymond E. Stevens, Resident Physician.
 4. The Toxic Manifestations of Sulfanilamide, by Dr. Edward J. West, President Physician.
- This last paper also summed up the entire presentation.

Dr. Eric Stone and Mr. Anderson discussed the Symposium.

Mr. Willis H. Chandler of the Rhode Island Tuberculosis League then gave an address on Tuberculosis in which he described the work of the League, advising the use of the tuberculin skin test and the X-raying of all positive reactors. He also described the national campaign for the early discovery of tuberculous infection.

The meeting adjourned at 10:35 P. M. Attendance 200.

Collation was served as usual.

Respectfully submitted,

WILFRED PICKLES, M.D., *Secretary Pro. Tem.*

Minutes of the May Meeting

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Alex. M. Burgess, on Monday, May 2, 1938, at 8:40 P. M.

The minutes of the last meeting were read and approved. Their applications having been approved by the Standing Committee, the following were elected to membership:

G. Edward Crane
Albert E. Geremia
William A. Mulvey
John Joseph Sheehan, Jr.

The Secretary read the following resolution approved by the Standing Committee:

"Whereas there are now available efficient sera for the treatment of a large percentage of the cases of lobar pneumonia and

Whereas the use of such sera has proved to be life saving in a large number of cases as shown by numerous reliable clinical reports and

Whereas the cost of such sera as purchased in the market is very high and represents a heavy burden on patients and on hospitals and

Whereas such sera has been made available without cost by the action of State Health Authorities in several neighboring states including Massachusetts, Connecticut and New York

Be it resolved that the Rhode Island Medical Society be requested to take action, calling the attention of the State Health Authorities to the above facts and requesting that serum be provided by the State free of charge for the treatment of indigent patients."

It was voted that a copy be sent to the Secretary of the Rhode Island Medical Society.

Dr. Streker reported progress on the part of the sub-committee of the Standing Committee in regard to the employment of an executive secretary. He announced that arrangements had been made by the Trustees of the Rhode Island Medical Society to provide office space in the Medical Library Building and reported also that there were available many excellent candidates for the office of executive secretary. On motion by Dr. Streker it was voted that \$2000 be appropriated for the expenses incident for an executive secretary for the balance of the calendar year. On motion by Dr. Burgess it was voted that the President appoint a committee of five members to act in an advisory capacity with the Director of Public Welfare in Providence regarding Medical Aid to those in temporary relief. The President reported the deaths of Dr. C. H. Leonard and Dr. Frank Gray.

The President then introduced Dr. John G. Walsh who acted as Chairman of the Symposium on Hypertension and Albuminuria in Pregnancy which was presented by members of the Staff of the Boston Lying-In Hospital.

1. Eclampsia. (Remarks on present state of the problem. Classifications.) Dr. F. S. Kellogg.
2. Relationship of Endocrines to Eclamptic State. Treatment of Pre-eclampsia and Eclampsia. Dr. H. M. Teel.
3. The Nephropathies. (Criteria for ultimate correct diagnosis.) Dr. D. E. Reid.

The first paper was by Dr. Kellogg who spoke on Eclampsia especially regarding classifications, nomenclature, and also on treatment.

The second speaker was Dr. Teel who spoke particularly about the occurrence of and treatment of acute pulmonary edema occurring in toxemias of pregnancy. The last speaker was Dr. Reid who spoke especially on the relation of cardio-vascular or renal disease to toxemias of pregnancy and of the effect of pre-existing disease on pregnancy and the effect of pregnancy on those previously normal.

The papers were discussed by Dr. Brackett and Dr. Frank B. Cutts.

The President announced the appointment of the following Golf Committee: Doctors N. Bolo-tow, Baldrige, McCoart, Migliaccio, and Hunt. The meeting adjourned at 10:30.

Attendance 119.

Collation was served.

Respectfully submitted,

HERMAN A. LAWSON, M.D.

Secretary

Rhode Island Hospital

Schedule for June, 1938

Thursday, June 2

R. I. Medical Society Clinics,

9:00 A. M.-12:30 P. M.

Luncheon in Nurses' Dining Room, 12:45 P. M.

Mondays

Surgical Grand Rounds, 10:00 A. M.

I Surg. Grand Rounds, June 6, 20.

II Surg. Grand Rounds, June 13, 27.

Thoracic Clinic, 4:30 P. M.

Tuesdays

Gastro-Intestinal Clinic, 9:30 A. M.

Surgical Grand Rounds, 10:00 A. M.

II Surg. Grand Rounds, June 7, 21.

I Surg. Grand Rounds, June 14, 28.

Wednesdays

Tumor Clinic, 10:00 A. M.

Thursdays

Orthopedic Grand Rounds, 9:00 A. M.

Thoracic Clinic, 11:30 A. M.

Gyn. Path. Conference every Thursday,
11:30 A. M.

Fridays

Fracture Grand Rounds, 11:00 A. M.

Pediatric Grand Rounds, June 3, 17.

Saturdays

Neurological Grand Rounds, 9:00 A. M.

Medical Conference, 10:00 A. M.

NOTE: Clinical-Pathologic Conference discontinued until October.

Dr. Gilmore W. Soule, a former interne at the R. I. Hospital, has opened an office for the practice of general medicine at 32 School Street, Rockland, Me.

Dr. Norman C. Margolius has opened an office for the practice of Gynecology and Obstetrics at 125 Grove Street, Waterbury, Conn.

Dr. Dale Vermillion, of Goodland, Kansas, is taking a post graduate course at the Eye and Ear Infirmary in Boston.

Dr. Warren Poland, who interned at the R. I. Hospital from May 1936 to May 1938, is now at Plymouth County Tuberculosis Hospital, South Hanson, Mass., as Assistant Superintendent.

Dr. S. Forest Martin, who has been at the Massachusetts Eye and Ear Infirmary for the past two years, has opened an office for the practice of ophthalmology at 101 Bay State Road, Boston, Mass.

On May 8th, 1938, at the Providence Lying-In Hospital, to Dr. and Mrs. Morgan Cutts, a son.

Dr. James Hollis Crowley, of Providence, started a two year internship at the R. I. Hospital, May 15th, 1938. Dr. Crowley is a graduate of Providence College and Tufts Medical School, 1938.

On April 1st, 1938, Dr. and Mrs. Gayton S. Bailey and daughter, Bettina Ann, left by automobile for Seattle, Wash., where Dr. Bailey expects to practice. Enroute they expect to visit in Texas.

On March 29th, 1938, Dr. Ralph Purvine arrived

in Providence, having journeyed by automobile from his home in Salem, Oregon. On April 1st he started a six months internship at the Lying-In Hospital. Dr. Purvine, while in the West, saw Dr. and Mrs. Luther MacDougal and Dr. and Mrs. Nathaniel Beaver.

On November 10, 1937, at East Bridgewater, Mass., Dr. Edmund C. Laurelli was married to Miss Lena M. Andrews of Providence. Dr. Laurelli interned at the R. I. H. from April 1931 to April 1933.

In January, 1937, at Hyannis, Mass., Dr. Jerome J. Ryan was married to Miss Gladys Hewitt. Dr. Ryan interned at the R. I. H. and was night superintendent for one year.

On April 15th, 1938, Malcolm S. Allan, Tufts Medical School 1938, began his regular twenty-four months' internship at the R. I. H. Dr. Allan's home is at Naushon Island, Woods Hole, Mass.

BOOK REVIEW

THE 1937 YEAR BOOK OF GENERAL MEDICINE. pp. 832, Cloth \$3.00, post paid. The Practical Medicine Year Books, The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, 1937.

For thirty-seven years the Practical Medicine Year Books have been serving the profession with résumés of the important articles written during each year. This year's volume was edited by the same as last year's. This year's volume has the same excellent group of editors as last year's and follows the same general form, even to the absence of Dr. Castle's name from the list of editors as it appears over the binding of the book.

The articles, with frequent editorial comments, are an excellent guide to further study of the most recent advances in medicine, and in most instances a good deal of specific information is presented for those who have not the time to delve more deeply into a subject. The greater part of the information is of direct clinical interest although in some instances, as in some of the discussions of the extrinsic and intrinsic factors in pernicious anemia the subject matter might appear a little ethereal to the ordinary reader.

It would hardly be possible to give a satisfactory review of many of the subjects in this article, but to take two subjects that are of growing interest to-day we might consider the operative treatment of hypertension and the use of sulfanilamide and related drugs. There are several very good articles on both these subjects but unless one knows a good deal about the subjects beforehand he is left somewhat in mid air. This is so also with many of the other subjects and would appear to be the chief weakness of any book of this nature. Because of necessary brevity intricate subjects are inadequately presented.

JOHN C. HAM, M.D.



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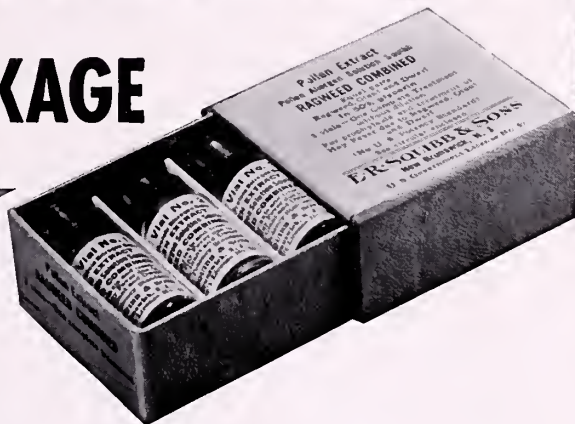
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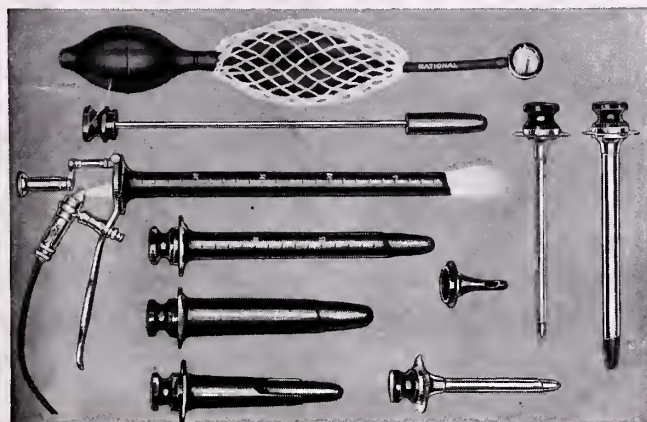
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Factors in Maternal Mortality in Rhode Island. By Drs. Edward S. Brackett and Milton Goldberger
Painful Shoulder in Association with Coronary Artery Disease. By Dr. Clifton B. Leech
Officers and Fellows of the Pawtucket Medical Association on Page XIV
Old News on Page XII

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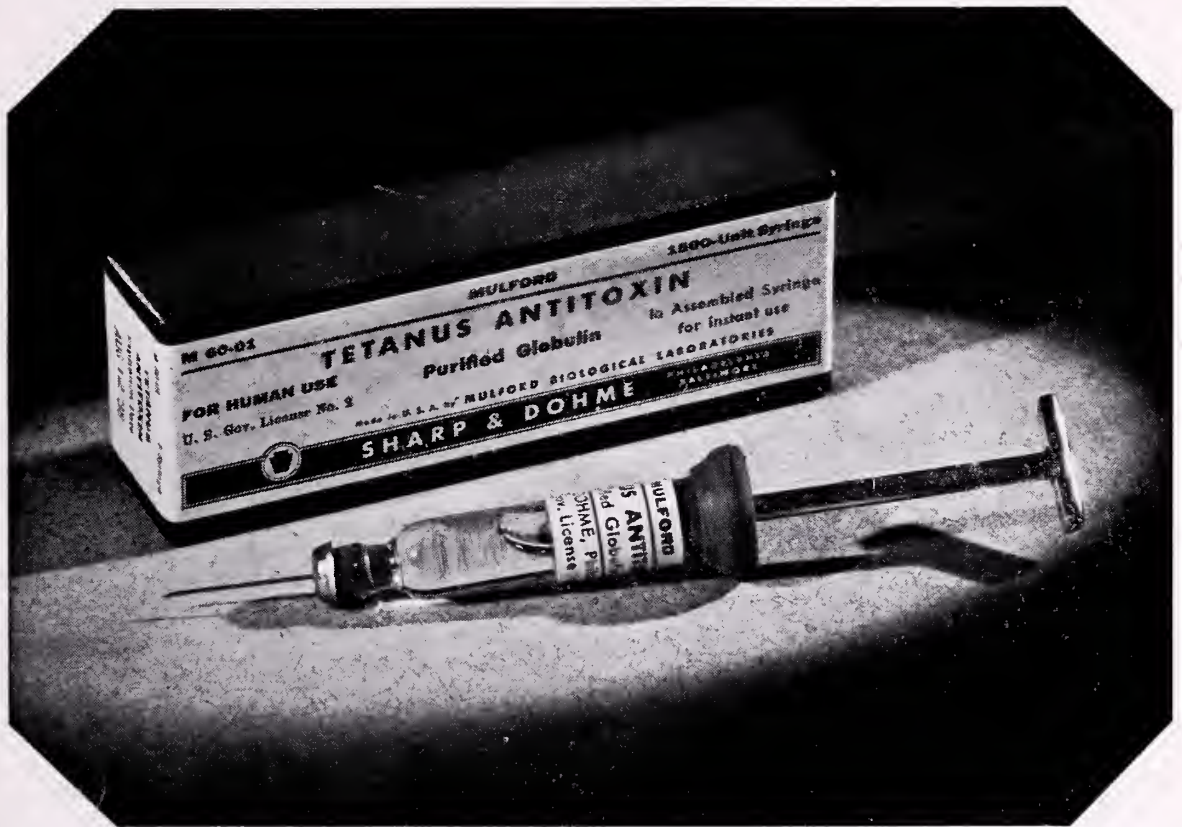
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V. HEAT PROCESSING THE SEALED CONTAINER

● Previously, we have described how raw food material is sealed in the tin container after proper preparatory treatment. After sealing, the next important step in commercial canning is the heat process, or "process" as it is called in the industry.

Essentially, the processing operation involves exposure of the sealed container to hot or boiling water, or to steam under pressure, for the correct period of time. The purpose of the process is to destroy pathogenic or spoilage organisms which may be present on raw food material; the seal on the can then prevents re-infection of the foods by such organisms. Thus, the sealing and processing operations combine to insure a sound, wholesome canned product.

It is not possible here to review all factors which must be considered in the establishment of an adequate heat process for any specific product. Such factors have been briefly discussed in recent publications (1, 2). It must suffice to state that, in general, commercial processing operations are divided into two general types, depending upon the acidity of the food being canned.

The "acid" foods—including the common fruits and certain vegetables or vegetable products whose pH values fall below 4.5—are quite easily heat processed. With such foods it is only necessary to heat the sealed container long enough to permit the attainment of a definite temperature

in the center of the can (usually 200°F. or slightly less). In fact, some acid products may be processed by filling sufficiently hot, sealing and inverting the cans, and cooling without further process.

The "non-acid" foods—such as meat, sea foods, milk and most of the common vegetables—require temperatures above that of boiling water for adequate heat processing. Such foods are processed under steam pressure in a closed "retort", usually at a temperature of 240°F. Years of research have made possible the issuance for the guidance of modern canners of a bulletin listing recommended process schedules for the non-acid products (3).

Regardless of the temperature of processing, equipment is available which permits use of the batch or "still" process, and the "continuous" or "agitating" types of process for sealed cans. Improvements in processing machinery and accessory instruments during the past two decades permit precise, scientific control of commercial processing operations.

Above all, however, the modern canner has a clear understanding of the underlying purpose of the process and a deep appreciation of the necessity for strict supervision of the processing operation. Commercially canned foods, consequently, must be ranked today among the most wholesome foods coming to the American table.

AMERICAN CAN COMPANY

230 Park Avenue, New York, N. Y.

(1) 1938 Food Research 3, 13.

(2) 1937. J. Amer. Med. Assn. 109, 1046.

(3) 1937. Natl. Canners Assn. Bull. 26L, 3rd ed.

This is the thirty-eighth in a series of monthly articles, which summarize, for your convenience, the conclusions about canned foods reached by authorities in nutritional research. We want to make this series valuable to you, so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



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Beat 3 eggs, season with salt, and add all the Pablum the eggs will hold (about 2 cupfuls). Form into flat cakes and fry in bacon fat or other fat until brown. Serve with syrup, honey or jelly.

Pablum Salmon Croquettes

Mix 1 cup salmon with 1 cup Pablum and combine with 3 beaten eggs. Season, shape into cakes, and fry until brown. Serve with ketchup.

Pablum Meat Patties

Mix 1 cup Pablum and 1½ cups meat (diced or ground ham, cooked beef or chicken), add 1 cup milk or water and a beaten egg. Season, form into patties, and fry in fat.

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FACTORS IN MATERNAL MORTALITY IN RHODE ISLAND

Conclusions drawn from a five year study

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167 ANGELL STREET, PROVIDENCE

and

MILTON GOLDBERGER, M.D.

224 THAYER STREET, PROVIDENCE

The material on which this paper is based consists of all the deaths registered in the State of Rhode Island from January 1, 1931 to December 31, 1935 and assigned to the group of conditions 140 to 150 inclusive according to the International List. This includes all deaths caused by pregnancy or complications of pregnancy. During 1935, 1934, and the latter part of 1933 all cases in which a mention of pregnancy was made were also investigated and a number of cases which seemed undoubtedly related to the pregnancy were included in the study. Copies of the death returns were received from the Bureau of Vital Statistics. In every case hospital records were consulted and, when the death occurred in a home, the attending physician was interviewed. When the diagnosis was in doubt, previously attending physicians and former hospital records were consulted.

Maternal mortality is a very complicated subject. The Committee is fully aware that its conclusions must, from the nature of the subject, lack the authority of a mathematical demonstration or a controlled laboratory experiment. It has had to rely on case histories obtained from hospitals and from a large number of private physicians. These histories have not always been complete or entirely reliable. It has been compelled to sit in judgment not only on the reliability of the evidence before it but also upon the judgment and skill exhibited in cases of which the members of the Committee had no personal knowledge. Though keenly aware of their fallibility and of the inconclusiveness of some of the evidence before them they are impelled to make certain broad generalizations, by two considerations.

First is the fact that in an all too large percentage of deaths there was evident neglect on the part of the patient or the accoucheur or the death was due to plainly evident mismanagement, through lack of training, skill or experience in obstetrical cases, on the part of the doctor in charge of the case. The conclusions which are set forth in the paper are based on these evident cases of neglect or mismanagement.

The second consideration is the belief that unless we attempt to draw conclusions from studies of maternal mortality statistics we must abandon all hope of improving our maternal mortality rate. It is only by knowing the causes of death and the errors that lead to the fatal outcome in avoidable cases that the toll of unnecessary deaths can be reduced. While the number of cases in this series is not sufficiently large to furnish percentage data of great statistical value and a complete knowledge of all the modifying factors may be lacking we believe we are justified in reviewing the facts and figures brought out by the survey and bringing in a verdict on the weight of the evidence before us. This procedure is one which must be followed not only in a study of puerperal deaths but in almost every other branch of the healing art. If we were compelled to wait for absolute proof of theories as to the causes of disease or of the efficacy of new methods of treatment, before accepting them as a working basis for treatment, progress in medicine would indeed be slow.

Taken in its broadest sense, a maternal or puerperal death is a death occurring during pregnancy or the puerperium. In this definition the puerperium must be taken to include not only the six weeks of the normal puerperium but whatever period elapsed between the delivery and the death of the patient from obstetrical causes, whether that period be six

Report of the Committee on Maternal Mortality.
Read before the Rhode Island Medical Society, at the One Hundred and Twenty-seventh Annual Meeting, Providence, June 1-2, 1938.

weeks or six months. While we have tried to review every case in which the death returns stated that the patient was or had recently been pregnant at the time of her death, no doubt some cases have escaped us, but we believe that these are not numerous enough to affect our conclusions.

Two hundred ninety-four cases have been reviewed. We have classified these cases under six headings: (1) Abortions. (2) Non-obstetrical deaths. (3) Cases in which pregnancy was a contributory cause. (4) Cases in which there was some doubt as to the part played by the pregnancy. (5) An unclassified group in which there were no reliable data from which any even reasonable conclusion could be drawn. (6) Obstetrical deaths, including all deaths due primarily to the pregnant state or secondarily to the mismanagement of pregnancy or labor.

Abortions

There were fifty-two deaths from abortion with sepsis and nine deaths the returns for which made no mention of sepsis. Based on their clinical experience in private practice it is the belief of most, if not all, obstetricians of wide experience that deaths from spontaneous abortion are extremely rare. It is safe to assume that the great majority of these deaths followed self-induced or criminal abortions and strictly speaking are not obstetrical deaths at all but are deaths resulting from trauma or the ingestion of drugs. They comprise over twenty percent of all the deaths. If women could be impressed with the danger of induced abortion and the deaths from this cause be eliminated, puerperal deaths could be reduced by nearly twenty percent. The weight of authority seems to be that the resort to artificial emptying of a uterus already septic should be avoided except for the control of dangerous hemorrhage and that if the uterus must be emptied the finger and never the curette should be employed. Disregard of this rule seems to have been a contributing cause in some of the fatal cases of septic abortion.

Non-obstetrical Deaths

This group comprises those deaths resulting from pre-existing or intercurrent disease in which there were no obstetrical complications and pregnancy had no direct bearing on the fatal outcome. It also included cases which were classified at the State House as puerperal though we could find no evidence that the patient had been pregnant. One resulted from the insertion of bichloride tablets into the vagina in an attempt to produce an abortion by

a patient who, autopsy showed, was not pregnant. Other cases included deaths from advanced tuberculosis, appendicitis, pneumonia, chronic heart disease, subacute bacterial endocarditis. Twenty-seven cases were classified under this heading.

We have laid down the rule that the death is non-obstetrical if there is a history of pre-existing chronic disease of a fatal character and no obstetrical complications arose, such as difficult or abnormal labor, hypertension, bleeding or similar obstetrical conditions. If acute intercurrent diseases developed before the onset of labor in patients whose pregnancy had previously been normal or after a labor which had been normal and no obstetrical complications developed at any time during or after labor, these cases have been classified as non-obstetrical. While some, such as poisoning cases, present no obstetrical problems the majority of them require thorough study by the obstetrician in order that he may be prepared to give sound advice as to the management of the pregnancy and labor as a complication of the medical or surgical problem presented. As pregnancy per se has a direct influence on a pre-existing chronic nephritis or hypertension and it is often impossible to rule out a super-imposed toxæmia as a determining factor in the fatality, these cases have been classified under other headings unless they occurred very early in pregnancy. Of the twenty-seven cases classified as non-obstetrical there are some deaths which we believe might have been avoided if the importance of pregnancy as a complication of the pre-existing or intercurrent disease had been fully realized and adequate treatment given. Diabetes, chronic nephritis, essential hypertension, and above all heart disease, are outstanding examples of pre-existing diseases which demand most careful treatment during pregnancy.

Pregnancy as a Contributing Cause of Death

Under this heading have been classified cases in which the normal strain of pregnancy on the heart, kidney and liver was a factor in the fatal outcome. They include cases of chronic nephritis, pre-existing hypertension, and heart disease. It is in this type of case that the management of pregnancy is of the utmost importance. They cannot be successfully managed unless the pre-existing disease is treated from the very beginning of pregnancy. The responsibility of impressing upon their patients whom they know to be handicapped by some organic disease, the importance of placing themselves immediately in competent hands if they become

pregnant, rests with the family doctor. Previously unsuspected organic disease cannot be treated until it is discovered. It can be discovered early in pregnancy only if every patient presents herself for advice and management as soon as she suspects that she is pregnant and then only if the physician makes a complete examination at her first visit or as soon thereafter as it is possible. There were four deaths under this heading.

Doubtful and Unclassified

Under this heading have been placed cases which for various reasons could not be definitely grouped under any of the other headings. From these cases we were unable to draw any conclusions. They require no further discussion.

Our attempt to classify these death returns has convinced your Committee that as a basis for comparing the quality of obstetrical care which puerperal women receive in various countries and states, vital statistics are unreliable because

(a) The death returns are not infrequently incomplete and carelessly made.

(b) It is impossible from the data available for the recording official to check the accuracy of the diagnosis.

(c) Rigidity in the rules for classification sometimes result in manifest absurdities, and

(d) Honest preconceptions and prejudices on the part of the recording officers probably determine whether a death shall be classified as puerperal or non-puerperal in cases in which the evidence is not clear. We suspect that the drop in the maternal mortality rate in this state since this survey was initiated may be due in part to the greater care with which the death returns have been scrutinized.

Obstetrical Deaths

140-141. Abortions account for about twenty percent of the deaths in this series. Most of them were undoubtedly self-induced or criminal. The medical profession can reduce the number of these deaths in two ways:—first, by impressing on the patients the danger to health and life of any induced abortion and, second, by more conservative treatment of cases already septic. Some of these cases were probably spontaneous and died from sepsis or hemorrhage, the result of neglect or mismanagement.

142. Twelve patients died of ectopic gestation. In one case the diagnosis was made at autopsy. Success in the treatment of this condition depends on early diagnosis and prompt operation. It is probable that some lives might have been saved by earlier diagnosis and by transfusion.

144a *Placenta praevia*. There were eight deaths from this cause. Of all the causes of maternal deaths, placenta praevia is perhaps the most appalling and in no condition is the time element more important. The first hemorrhage occurs without warning, usually in the home, perhaps back in the country far removed from a hospital. What course should the physician follow when confronted by this grave emergency? The immediate causes of death in this series indicate what course in general should be followed:—hemorrhage in three cases, shock and hemorrhage in one case, sepsis in three cases and ruptured uterus in one case. There was one patient who died from a massive gastric hemorrhage after a successful Caesarian section. The immediate cause of death was the gastric hemorrhage, but pregnancy was a contributory cause as the patient was unable to cope with the gastric hemorrhage because she was already profoundly anaemic from the bleeding incident to her placenta praevia. In every case of death from hemorrhage the patient was delivered by some form of mechanical dilatation of the cervix followed by version and extraction. Mechanical dilatation of the friable cervix and lower uterine segment almost always results in deep tears and consequent profuse post-partum hemorrhage. The effort to control bleeding resulted only in increased hemorrhage. The first bleeding in placenta praevia is seldom fatal. Only in a hospital can dangerous bleeding be efficiently combatted. The indication then is to send the patient to a hospital on the first appearance of bleeding. It is not necessary to make a differential diagnosis. Bleeding is diagnosis enough.

Sepsis was the cause of death in three of these cases. In one case the sepsis followed Caesarian section after the patient had been packed twice. In the face of bleeding it is a great temptation to pack the vagina but to do so effectively and aseptically is next to impossible in the home.

When confronted with bleeding there is no safe road which the physician can follow. He must choose the least dangerous and the story of these eight fatal cases indicates that he should send his patient to the hospital at the first sign of bleeding without packing or even making a vaginal examination. The cervix should never be forcibly dilated either in a home or in a hospital. Whether the patient should be treated by simple rupture of the membranes, by the insertion of a bag, by Braxton Hicks version or by Caesarian section is a question for the obstetrical specialist to decide.

The lives of some of these patients undoubtedly might have been saved by immediate hospitalization and by choosing a method of delivery other than dilatation of the cervix, version and immediate extraction. Fatal bleeding and fatal sepsis might have been avoided.

144b. The number of deaths from separated placenta was unnecessarily large. The best method of management after separation has occurred is still a matter of dispute. Whether in this series the best methods were employed we cannot say but we can say most emphatically that the cause of separated placenta is usually toxæmia and that in over eighty percent of these cases the patients had totally inadequate prenatal care. Adequate prenatal care would have reduced the number of deaths from this cause. Early hospitalization of cases of hypertension and albuminuria is essential. In some of the fatal cases in this series the patients themselves were at fault but in others the attending physicians were inexcusably remiss both in failing to make an early diagnosis of toxæmia and in not appreciating the seriousness of the condition before the patient was dangerously ill from the toxæmia and hemorrhage which early treatment might have prevented.

There were eighteen deaths from postpartum hemorrhage. Some of these were inevitable but others were due to mismanagement or neglect. Some of them followed difficult deliveries and the hemorrhage was evidently due to deep laceration of the birth canal in an attempt to deliver the foetus through a cervix not yet fully dilated. Actual rupture of the uterus probably occurred more than once. The fundamental fault in these cases seems to have been the utter lack of appreciation on the part of the attending physician of the seriousness of all obstetrical operations and his rashness in undertaking an operation which he lacked the skill and experience to perform safely, sometimes in the home and under conditions which a more experienced obstetrician would have considered impossible. There were deaths from hemorrhage following spontaneous deliveries after the physician had left the house. That these patients would not have died had the physicians watched them more carefully and had not hurried away immediately after the delivery we cannot say. The "doctor's hour" of the old obstetrician was a wise precaution. The physician, like Caesar's wife, should be above suspicion and if he hurries away and his patient dies before he can be called back it certainly raises the suspicion of neglect.

145. Sepsis still ranks first in the official returns of causes of death. In the official rules for classification it takes precedence. There were thirty-seven deaths reported as due to sepsis after the seventh month. If we exclude the cases in which the sepsis was but an incident in the course of some other conditions, such as Caesarian section, appendicitis and toxæmia, it falls into second place in this series. While sepsis is frequently due to faulty aseptic technique in the conduct of labor, other causes are often operative; lowered resistance due to poverty and malnutrition, the anemia resulting from toxæmia and nephritis or hemorrhage; trauma inflicted by bungling operative deliveries, many of them undertaken before nature had prepared the soft parts for safe delivery. Fifty-seven percent of these cases were operative deliveries. In some of these cases the indications for operative interference were, by the standard of conservative obstetrics, entirely inadequate. It is evident that it is not universally appreciated that it is impossible to sterilize the birth canal and that the trauma of an operative delivery vastly increases the chances of infection. The morbidity following operative is by a conservative estimate five times that following spontaneous deliveries. Unnecessary operative deliveries was one of the principle causes of these thirty-seven septic deaths.

146. Toxæmia, including chronic nephritis and hypertension, was in this series the most frequent cause of death. Inadequate prenatal care was an outstanding factor in these cases. It is evident that many patients and many physicians are not yet convinced that careful supervision of pregnancy by a trained physician is necessary. Monthly urine examinations and blood pressure readings in the first months of pregnancy and weekly examinations in the latter months would have led to early diagnosis and treatment and reduced the large number of women who were in extremis before they had any intelligent care at all. The acute fulminating type of toxæmia which develops suddenly and without warning, is extremely rare. Many of the deaths from toxæmia in this series were avoidable. According to modern standards some of these cases, after they had developed serious symptoms, were very poorly treated. Forceful dilatation of the cervix with version and extraction of the foetus and forceps delivery before full dilatation of the cervix have been abandoned in all the leading obstetrical clinics, for these patients are peculiarly vulnerable

to the hemorrhage, shock or sepsis which frequently result from these procedures. Abandonment of these antiquated methods and adoption of the more modern method of controlling the toxæmia before delivering the patient would materially reduce the mortality from toxæmia.

Conservatism in the management of labor is the key note of the modern treatment of these conditions. The medical induction of labor or induction by simple rupture of the membranes are the accepted methods. Induction by bags is dangerous and is rarely or never indicated. Even though the patient may be profoundly toxic and having convulsions she should not be subjected to an operative delivery until the cervix is fully dilated and retracted and then only when it is evident that she will not deliver herself. In not a few of the deaths from this cause these cardinal principles were entirely ignored.

147. Other toxæmias of pregnancy accounted for eight deaths. We were not able to draw any conclusions from this group.

148. Puerperal phlegmasia alba dolens, embolism, sudden death (not specified as septic) were given as the cause of death in nineteen cases, most of them being cases of embolism for which no cause and therefore no prophylactic measures are known.

149a. Twenty-four deaths followed *Cæsarian section* and of these, sixteen were the result of the operation per se. The danger inherent in this operation is evidently not fully appreciated by the profession at large. In the best clinics the mortality rate averages around five percent but Plass has stated that, the country over, it is probably nearly ten percent. The indications for this dangerous operation in some of the cases in this series were, in our opinion, very doubtful. Apparently the temptation to get out of a tedious or difficult situation by a rapid, easy and spectacular method of delivery was too great to be resisted. This operation is too frequently done "on order" and without proper consultation, a physician inexperienced in obstetrics deciding upon the operation and calling an equally inexperienced surgeon to do the operation for him. It seems apparent that expert obstetrical advice would have prevented some of the deaths from this cause.

149b. Other accidents of pregnancy accounted for sixteen deaths. They include shock following difficult deliveries, ruptured uterus (spontaneous, operative and following the administration of pitu-

itary extract), inversion of the uterus, retained placenta and post operative pneumonia. Some of these deaths occurred in the home and were the direct result of bungling obstetrical operations—a fact which brings into bold relief one of the outstanding factors which contribute to the toll of unnecessary maternal deaths—the total lack on the part of some members of the medical profession of an appreciation of the seriousness of obstetrical operations. Men who would insist on having a surgical consultant and sending their patients to a hospital for a simple appendectomy, attempted high forceps or versions in the home and without consultation with an obstetrical specialist. They apparently had no conception of the fact that it requires wide experience to determine the optimum time for operative intervention and the type of operation indicated or that specialized skill in performing major obstetrical operations is as essential as in any surgical specialty. Shock and hemorrhage, which may follow even the most skillfully conducted operative delivery, can be effectively combated only in a hospital. To undertake in a home, without proper equipment or adequate assistance, an operation that may endanger two lives is, to say the least, lacking in foresight.

By the very nature of the subject, this has been a depressing report. By necessity it has been concerned with errors in judgment and mistakes in treatment, many of them excusable but, alas, too many of them inexcusable. It is on the inexcusable errors that stress has been laid. That the great majority of the members of the profession in this state, both obstetricians and general practitioners, give their patients good obstetrical care, is attested by the fact that in the year 1936 Rhode Island, based on the report of the United States Census Bureau, shared with New Jersey the honor of having the lowest maternal mortality rate of any of the states of the Union—4.0 per thousand live births. Based on the figures of the Rhode Island Bureau of Vital Statistics, the rate for 1937 was reduced to 3.4 per thousand live births.

We cannot close this report without commending the physicians who signed the death returns on which this study is based. Almost without exception they were willing to discuss the deaths freely and frankly. This willingness to face facts augurs well for a still further reduction of our mortality rate which, this survey demonstrates, is possible.

MATERNAL DEATHS IN RHODE ISLAND
1931-1935 INCLUSIVE

140	Abortion with septic conditions	52
141	Abortion without mention of septic conditions (to include hemorrhage)	9
142	Ectopic Gestation	12
144a	Placenta Praevia	8
144b	Other Puerperal Hemorrhages	23
145	Puerperal sepsis and pyemia (not specified as due to abortion)	37
146	Puerperal albuminuria and eclampsia	40
147	Other toxæmias of pregnancy	8
148	Puerperal phlegmasia alba dolens, embolism sudden death, (not specified as septic)	19
149a	Caesarian Operation	24
149b	Other accidents of childbirth	16
		248
	Contributory	4
	Doubtful	8
	Unclassified	7
	Non Obstetrical	27
		46
		46
	Total	294

PAINFUL SHOULDER IN ASSOCIATION
WITH CORONARY ARTERY DISEASE

CLIFTON B. LEECH, M.D.
82 WATERMAN STREET, PROVIDENCE

Although arthralgia and similar painful conditions of the extremities, often labelled as "rheumatic," are commonly encountered in patients with heart disease, it required an unusual set of circumstances to impress upon me the definite association between painful shoulders and coronary artery disease. The circumstances were as follows:

In January, 1937, a 53 year old railroad brakeman was seen with clear evidence of left ventricular failure, characterized by marked gallop rhythm, pulsus alternans, congestion in the pulmonary circuit and a clear history of sudden onset of marked substernal pain requiring morphine for relief in September, 1936. Previous to that time he had felt well and performed the laborious duties of a brakeman. The marked substernal pain occurred at a time when an accident induced considerable strain. Thereafter there was anginal pain on exertion, which usually radiated to the right arm. Dyspnea and increasing fatigue caused the man to leave work in November but no prolonged bed rest or adequate treatment was obtained previous to January. An electrocardiogram at that time seemed quite

characteristic of a healing stage of anterior coronary artery occlusion. Following several weeks of bed rest and the usual therapy directed at left ventricular failure a more efficient circulation returned and the anginal syndrome diminished somewhat. A few days after being permitted to leave the bed he developed pain in the right shoulder and arm, practically continuous, moderately severe, greatly aggravated by movement of the arm, especially extension and abduction, not effected by exertion which did not include use of the right arm and in general resembling the symptoms of subdeltoid bursitis. It was impossible for him to put on his coat without aid and there was weakness of the arm. This painful shoulder persisted until May 1937. During this period there had been anginal pain on exertion, relieved by nitroglycerin. Nitroglycerin did not affect the shoulder pain. X-ray study revealed no calcification in or around the shoulder or deltoid tendons. By May the anginal syndrome also had disappeared so that it was possible for the patient to undergo considerable exertion without discomfort and the electrocardiogram showed return toward normal. In connection with compensation which the man was claiming from the railroad, it was important to give a definite diagnosis in regard to the cause of the shoulder pain.

In July, 1937, a man of 72 who, during the previous winter, had been in the hospital under my care following undoubted coronary thrombosis and who developed the anginal syndrome, began to complain of slight pain in the right shoulder and severe pain in the left shoulder with limitation of motion especially external rotation and abduction. He could not put on his coat and the weight of the bed clothes produced discomfort. An orthopedic consultant found no evidence of arthritis or bursitis. The patient continued to have anginal pain on slight exertion and sometimes after eating, the pain usually aggravating the constant discomfort in the shoulder. Nitroglycerin relieved the anginal pain but not the shoulder pain. Some relief, but not complete, was obtained from salicylates. Theophylline-ethylendiamine in large doses seemed to greatly reduce the tendency to anginal pain, and coincident with this there was great improvement in the shoulder. This medicine was continued and by December the anginal syndrome was so infrequent as to require nitroglycerin hardly more often than once a week and there was no longer limitation of motion of the left shoulder nor significant pain.

Read before the Rhode Island Medical Society at the One Hundred and Twenty-seventh Annual Meeting, Providence, June 1-2, 1938.

In August, 1937, a 65 year old laborer was referred to me by a physician who said the patient had a clear history of coronary thrombosis occurring 3 weeks previously, that while doing some work mixing mortar with a long-handled hoe there had been sudden, severe substernal pain with marked general collapse and evidence of peripheral circulatory failure. The patient had been in bed previous to my seeing him and his electrocardiogram was typical of a healing stage of an occlusion of the anterior type. This patient did well and in mid-September was up and about but subject to anginal pain radiating to the right arm on exertion, especially walking, relieved by nitroglycerin. In October he first began to complain of pain in the right shoulder and arm with marked limitation of motion and inability to dress himself. He felt that there was little strength in the hand and arm. The pain was almost constant day and night, not relieved by nitroglycerin, not aggravated by motion except of the arm and shoulder itself. Physical examination and x-ray examination of the painful area was negative. In the course of the next few months the anginal syndrome disappeared coincident with theophylline-ethylendiamine and other measures so that by mid-February there was practical absence of anginal pain on the same activities which had previously been accompanied by pain, and the shoulder seemed entirely well.

In November, 1937, a 60 year old man was referred to me with a history of typical angina pectoris, of 4 or 5 years duration, which had been markedly worse during the previous few weeks. Study at the time revealed no definite sign of coronary occlusion but considerable evidence of coronary artery insufficiency. Early in January, 1938, the anginal syndrome became much more prominent and was accompanied by pain in and limitation of motion of the right shoulder so that it was impossible for him to dress. He spent the next few weeks in bed with marked diminution in the anginal pain and with a gradual subsidence of the shoulder symptoms. In May, 1938, the patient was up and around with a mild anginal syndrome and no appreciable shoulder pain.

Four patients with such remarkably similar conditions of painful shoulders associated with coronary artery disease, in one of whom it was necessary to make a decision as to the cause of the painful shoulder, lead to a consideration of the possible causal relationship of the two conditions. Although

earlier patients with somewhat similar complaints could be recalled it was a surprise to find in the literature several articles concerned with this association. The general opinion seemed to be that the association is too frequent to be accidental. The majority of the patients had pain in the left shoulder and anginal pain referred to the left arm. Three of my patients had pain in the shoulder to which the anginal radiation was referred, in two of them the right shoulder, in the fourth the anginal pain was substernal only. Boas and Levy state that "the development of shoulder pain within a week or two after an atypical attack of upper abdominal or chest pain, the diagnosis of which is in doubt, may give the first clue that a cardiac infarction was the cause of the attack." The same authors believe that there are patients in whom the shoulder pain may antedate or follow coronary occlusion by many weeks or months or even by years.

Shoulder pain is uncommon in forms of heart disease other than that due to sclerosis or occlusion of the coronary arteries. It is not difficult to distinguish the shoulder pain from that of angina pectoris. The anginal pain is usually relieved by nitroglycerin while the shoulder pain continues even though it may have been intensified during the anginal attack. The shoulder pain is not aggravated by exercise such as walking but there is marked limitation of movement of the arm; neither the shoulder nor arm tolerate weight bearing. In my four patients the shoulder difficulty disappeared as general improvement in the cardiac condition came about; apparently as the coronary blood supply improved the shoulder disability improved also. Diathermy and salicylates gave but little relief.

Boas and Levy report that pressure on the homolateral brachial plexus, advocated by Libman, at times brings about instant relief of the entire shoulder disability. I have had no experience with this procedure.

A number of observers have attempted to explain the mechanism of this type of shoulder pain. Several authors have discussed a relationship between brachial neuralgia and angina pectoris. Such associations as herpes zoster and localized sweating in the area corresponding to the distribution of anginal pain have been described. I have two patients whose most severe anginal attacks are accompanied by sudden swelling of the tissues of the arm to which the pain radiates, with disappearance when the pain ceases, apparently a form of angio-neurotic edema initiated by the anginal pain. It seems probable that

afferent pain impulses from the heart produce a sensitization of the brachial plexus, and rather unlikely that there is an actual affection of the shoulder. Sensitization of remote neurones by sensory stimuli from the heart seems to be an accepted theory.

In 1911 Sir James Mackenzie reported a patient with angina pectoris in whom the pain radiated to the jaws and was "worst opposite two decayed and tender teeth, one in either jaw." In the same paper Mackenzie wrote "It is to be noted that the situations in which the pain was felt were those supplied by nerves whose central ends are in close association with the cardiac nerves—a hyperalgesia of the tissues of the external body wall is in all probability due to an irritable focus in the central nervous system at the origin of the nerves whose peripheral ends are hyperalgesic." Others have reported such associations as the radiation of anginal pain to diseased appendices, pathologic gall bladders, to the region of a kidney which contained a renal calculus, and to the epigastrium in patients with peptic ulcer.

That the site and radiation of anginal pain may be affected by extra-cardiac lesions, such as those mentioned, is well recognized and there may be a somewhat similar reciprocal relation between shoulder pain and coronary artery disease; if so, the underlying condition in the shoulder girdle remains difficult to detect.

If the shoulder pain is due to some sort of reflex stimulation it seems logical to consider it as much a part of the cardiac picture as the angina pectoris itself and logical to judge by its disappearance something as to the improvement in the myocardial blood supply.

Whatever the true mechanism may be it seems that there is a disability of the shoulder accompanied by pain and limitation of motion often associated with coronary artery disease; chiefly the shoulder involved is the one on the side to which the anginal pain is or has been referred. The condition improves as the blood supply in the coronaries improves. In the absence of other definite causes for such disabilities of the shoulder and arm, coronary artery disease should be suspected and searched for by the usual methods.

REFERENCES

- Boas, E. P., and Levy, H.: *American Heart Journal*, 14, 5, 540, 1937.
Mackenzie, J.: *A Case of Angina Pectoris Associated with Great Excitability of the Vaso-constrictor Mechanism*. *Heart*, 2, 265, 1911.

RHODE ISLAND MEDICAL SOCIETY

Report of the Treasurer

RECEIPTS

Cash on Hand January 1, 1937	\$1,047.45
Annual Dues	4,535.00
Donations	673.38
Harris Fund	322.88
Terry Fund	76.80
Davenport Fund	71.20
Ely Fund	74.00
Morgan Fund	25.80
Endowment Fund interest transferred to Peoples Savings Bank	92.40
Exhibits, Annual Meeting, Donations	535.00
	<hr/> \$7,453.91

EXPENDITURES

Collation and Annual Dinner Expenses	\$ 693.00
Expenses of Secretary (Secretary service, etc.)	82.64
Printing and Postage	187.16
Gas	45.84
Electricity	94.52
Fuel	526.25
Telephone	87.74
City Water	16.69
House Supplies and Expenses	279.78
House Repairs	131.00
Librarian	1,660.00
Janitor	720.00
Journals, Ely and Terry Funds	55.65
Safe Deposit	6.60
Treasurer's Bond	25.00
Dues, Medical Library Association	10.00
Delegate, American Medical Association	100.00
Sunday Lectures	152.25
Exhibits, Expenses	115.00
Endowment Fund interest transferred to Peoples Savings Bank	92.40
Typewriter	121.95
Insurance	252.46
Installing new main Electrical Service	253.50
	<hr/> \$5,709.43
Cash on Hand to Balance	1,744.48
	<hr/> \$7,453.91

Respectfully submitted,

JESSE E. MOWRY, M.D., *Treasurer*.



EDWARD SUMNER BRACKETT, M.D.

C

President of the
Rhode Island Medical Society
1938-39

THE RHODE ISLAND MEDICAL JOURNAL

Medical Library Building
106 Francis Street, Providence, R. I.

ALBERT H. MILLER, M.D., *Editor*
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HENRI E. GAUTHIER, M.D.	GEORGE L. YOUNG, M.D.

In Italy, a uniform scale of medical fees has been established by the government. In our own country, certain medical fees, as in compensation cases, are so regulated but in general the scale of medical fees depends upon the spirit of fairness among physicians cooperating with an appreciative clientele. The two editorials which follow indicate that this subject still vexes some members of our editorial board.

MEDICAL FEES

When Roger Williams founded Providence he was welcomed by the Indians, who shared their food with him and sold him their land for a nominal sum. Williams stated that he had purchased the land from the natives, "partly by the favors which had long before obtained at his cost and hazard, and partly with his own monies." He later purchased Aquidneck and other islands from the Indians for forty fathoms of white beads. As he said in 1658, "It was not price or money that could have purchased Rhode Island. Rhode Island was purchased by love." He told Governor Winthrop after the purchase of Aquidneck and Prudence that neither of them was bought properly, for strangers could not have bought either for a thousand fathoms. "The truth is, not a penny was demanded for either, and what is paid was only gratuity, though I choose for better assurance and form to call it sale."

Now after nearly two hundred years we find patients paying physicians almost as Roger Williams paid for Rhode Island. In some parts of the State they have become used to paying the physician seventy-five cents or a dollar for an office fee, including a bottle of medicine. Why not pay us

with love or beads? The Indians were satisfied. Now physicians must accept these inadequate fees because a few of our profession are willing to underbid and offer their services at these figures — services for which only fifty cents may be an overcharge.

Patients go to chiropractors and osteopaths and pay more for treatments than some men of the regular school are asking. Physicians who believe that they fortify their positions with patients by charging low fees and criticising men who charge more are deceiving themselves. A patient who paid \$50 for a nasal operation asked the writer if he thought the specialist took sufficient interest to do good work since he charged such a small fee.

The fault lies not with patients but with some physicians. Those physicians who attempt to build themselves up by underbidding the generally accepted fees are not only damaging themselves but the medical profession at large. If they are allowed to cling to such fees it is a confession that the profession is at a low ebb of efficiency.

In some localities ridiculous fees are asked by a few physicians who insist on retaining them: an office visit at a dollar or less a Colles' fracture for \$15.00; appendectomy, \$30; tonsillectomy, \$15; obstetric delivery, \$25, including prenatal care; a night call for \$2.50. In many instances health certificates are issued to food handlers for fifty cents, without an examination. At these fees it is impossible to give the patient ample time for proper treatment. Those who are trying to do conscientious work and who are willing to re-invest a reasonable part of their incomes in new equipment are the ones, besides the patient, who suffer from such an arrangement. It would seem that the County or State Medical Society should step in and prevent these unfair medical practices. They might establish a minimum fee to cover the State.

Care of the sick is an essential service which physicians are bound to deliver whether they are paid or not. The poor may lack for food and shelter but no reputable physician refuses to give them medical care. Our great hospitals are organized for this primary purpose; to enable the medical profession to do charity work efficiently. Originally few in number and limited in capacity this work has extended until we now have 6,128 hospitals with

a capacity of 1,124,548. The ratio of free to pay patients has increased steadily. Medical fees have increased but not nearly in the same proportion.

If all the physicians in Rhode Island should double their fees the number of patients who were able to pay the increased expense would be reduced much more than a half. The amount received by the entire profession would be reduced. A few physicians would find their income increased but the income of the majority would be diminished. The number of charity patients would be more than doubled. If, on the other hand, all medical fees were reduced by one half the number of pay patients would be increased in geometrical ratio. The number of charity patients would steadily diminish. The amount received by the profession would be increased and would be more equally distributed.

Among the most evident causes of the present financial depression, the determination of a large proportion of our population to do less work for more money is prominent. Many members of the medical profession have embraced this determination. It is notable that business which has sought to give better service for a smaller profit is surviving the depression while firms that have tried to balance a diminished volume of business by higher prices have failed and their property been razed for parking lots. As a means of self preservation for the Rhode Island Medical profession, we recommend the slogan * * More work for less money.

FIRST IN HEALTH CONSERVATION

Providence was in the limelight at the Annual Convention of the United States Chamber of Commerce held in Washington in May, in connection with the two Inter-chamber Contests. Besides being in the honor class for Fire Prevention, Providence was tied with Louisville for first honor in the Health Conservation Contest in its population class. With the active cooperation of Dr. Michael J. Nestor, Providence Superintendent of Health, a complete exhibit of all health activities for 1937 was submitted to the judges of the contest. It included reports for the Health Department, hospitals, clinics, and many charitable and medical organizations in the city. Dr. Nestor went to Washington to personally receive the silver plaque won by Providence.

RHODE ISLAND MEDICAL SOCIETY

Minutes of the One Hundred and Twenty-seventh Annual Sessions

Meeting of the Council

The annual meeting of the Council of the Rhode Island Medical Society was called to order by the President, Dr. Walter C. Rocheleau, at 4:15 P. M., May 19, 1938. Present were: Doctors Rocheleau, Mowry, Gauthier, Hammond, Partridge, Champ-
lin, Arthur T. Jones, Brackett, Miller, Holt, John P. Jones, George S. Mathews, Fulton, Charles F. Gormly, and Wells.

The Secretary read the minutes of the previous meeting of the Council, and same were approved as read. Dr. Mowry read the treasurer's report and on motion of Dr. Hammond, seconded by Dr. Arthur T. Jones, the report was accepted and placed on file. Dr. Jones moved that reading of the investment list be omitted, and upon being seconded by Dr. Partridge the motion was passed.

Dr. Mowry moved that the following doctors be placed on the retired list: Dr. R. Morton Smith, Dr. Richard F. Boucher, and same being duly seconded the motion was passed.

It was moved, seconded and passed that Dr. Francis H. Coone's resignation be accepted, and that the Treasurer be instructed to invite Dr. Coone to the annual meeting of 1938. It was moved, seconded and passed that Dr. Philip Solomon's resignation be accepted and that he be exempted from dues for the ensuing year. Also, Dr. Frederic J. Farnell's resignation was accepted.

Dr. Mowry then read letters from Dr. Virgilio Bertone. Dr. Bertone had applied for reinstatement in the Rhode Island Medical Society. Dr. Mowry had replied that it would be necessary to pay two years' back dues and also the dues for 1938 before Dr. Bertone could be reinstated. Dr. Bertone declined, stating that he believed he had notified the Secretary of the Rhode Island Medical Society of his intention of being out of this country at the time in question. Dr. Bertone considered the letter evidence of his resignation. He felt paying two years' back dues would be in the nature of a penalty. It was moved, seconded and passed that Dr. Mowry be instructed to write Dr. Bertone to the effect that the Council had considered his letters and felt he should pay two years' back dues and the year of 1938 before reinstatement could be made.

Dr. Miller then read his report on the cost of the annual dinner. It was discussed by Doctors Gormly, Mowry, Champlin and Miller. It was moved, seconded and passed that the report be accepted, that no action should be taken this year, and that the Committee continue its studies and report.

Dr. Mowry gave a brief report concerning the request of the Providence Medical Association for permission to refinish an alcove adjoining the auditorium for office use at the expense of the Providence Medical Association. The Board of Trustees of the Medical Library Building had granted the request.

It was moved, seconded and passed that Dr. DeWolf bring before the House of Delegates the matter of a December scientific meeting in addition to the June Annual Meeting.

The meeting was then adjourned.

Respectfully submitted,

GUY W. WELLS, M.D.,
Secretary.

Meeting of the House of Delegates

The House of Delegates of the Rhode Island Medical Society was called to order by the President, Dr. Walter C. Rocheleau at 5:30 P. M., Thursday, May 19, 1938, at the Medical Library.

Dr. Roland Hammond read the report of the nominating committee. Dr. Mowry moved that the report be accepted, and being seconded by Dr. John A. Walsh, it was so voted.

Dr. Halsey DeWolf moved that the individuals nominated by the nominating committee for officers and committees be elected. Seconded by Dr. Mowry, the motion was passed.

The Secretary then read the minutes of the Council Meeting held just prior to the meeting of the House of Delegates. It was moved, seconded and passed that the report be accepted.

Dr. Mowry read the Treasurer's report. Dr. DeWolf moved that it be accepted, and upon being seconded by Dr. Alex. M. Burgess, it was passed.

The Secretary's annual report was accepted by the House of Delegates.

Doctors DeWolf, Gormly, Miller, and Burgess discussed the advisability of a scientific meeting in December in addition to the one in June. It was felt that such a meeting had its place and would be of definite value in stimulating further interest in the State Society. The new President was in-

structed by the House of Delegates to hold a December meeting for scientific purposes.

Dr. Rocheleau gave a brief review of the program for June 1st and 2nd, 1938, and reported that the programs were to be mailed the following day.

Committee on Arrangements—The Secretary gave an oral report that the banquet would be held at the Ponham Club, Thursday, June 2nd, at 7 P. M.

Committee on Legislation—Dr. Herbert E. Harris read the report and it was accepted and placed on file.

Publication Committee—Dr. Lucius C. Kingman reported for this committee; Committee on Education—Dr. George L. Young reported; Committee on Necrology—Dr. Herman L. Emidy reported; Board of Trustees of the Library Building, Dr. Charles H. Holt reported. All of these reports were accepted and placed on file.

Dr. Herman C. Pitts reported for the Cancer Committee; Dr. Charles F. Gormly for the Committee on Emergency Medical Relief; Dr. Charles L. Farrell for the Committee on Health Clinic Investigation; Dr. Charles Bradley for the Publicity Committee, and Dr. Charles O. Cooke for the Committee on Annual Clinics. These reports were accepted and ordered placed on file.

Because the Survey of Maternal Obstetrical Deaths is to be given at the general session, Dr. Edward S. Brackett gave only a brief oral report.

The Committees on Economics, Medical Care, Advisory Workmen's Compensation, Defense, and Annual Exhibits did not report.

Dr. Rocheleau then reported a new committee called the Grievance Committee: Dr. Frederic V. Hussey, *Chairman*, Dr. Halsey DeWolf, Dr. Charles S. Christie, Dr. John Champlin, Dr. Thaddeus A. Krolicki, Dr. Henri E. Gauthier, Dr. Norman M. MacLeod.

The Secretary then read resolutions of the Pawtucket Memorial Hospital Staff and the Providence Lying-In Hospital Staff relating to Hospital Insurance plan. The resolutions provided that any such plan should first be approved by the Rhode Island Medical Society, that it be not changed without the consent of the Rhode Island Medical Society and that the plan in no way deal with medical treatment, and were adopted.

A resolution from the Providence Medical Association, relative to the distribution of pneumonia sera free of charge to indigent patients, by the State Health Authorities, was adopted.

A resolution by the Providence Medical Association supporting House resolution No. 352, and Senate resolution No. 194 of our National Congress, relating to regulation of foods and drugs, was presented and adopted.

A resolution urging our National Congress to pass Bills S-3919 and H. R. 10455, authorizing the building of an Army Medical Library Building, was adopted.

Respectfully submitted,

GUY W. WELLS, M.D.,
Secretary.

OBITUARY

GEORGE E. REYNOLDS, M.D.

Dr. George E. Reynolds died suddenly of angina pectoris and coronary arterial disease at his home, 217 Elmwood Avenue, June 6th, 1937, in his 56th year. He was born in Adams, Massachusetts, on April 9th, 1882. He attended the public schools of Pittsfield and was graduated from its high school in 1902. In the fall of 1902 he matriculated at the Jefferson Medical School. At the end of his second year he took up his studies at Georgetown Medical School, Washington, D. C., where he received his degree of Doctor of Medicine two years later, 1906.

Returning to Pittsfield, he associated himself with Dr. C. N. Richardson, the chief surgeon of the House of Mercy Hospital, under whose guidance and training he received his preliminary schooling in surgery. He remained with Dr. Richardson until 1910. He enjoyed an extensive practice during the period of fourteen years that he lived in Pittsfield, holding the position of surgeon to many of the large industries in the Berkshire area.

During the World War, Dr. Reynolds was commissioned a First Lieutenant in the Medical Corps, U. S. A.

In 1920 he came to Providence and opened an office on Elmwood Avenue. For the most part he confined his practice to surgery, and within a short time of his change of residence to Providence he was appointed a member of the courtesy staff of St. Joseph's Hospital, where he was recognized as a very capable surgeon. In more recent years he held the position of consulting surgeon at the same institution.

In the election of 1928 he ran as a candidate-at-large for School Committee and won by an over-

whelming majority. As a member of this committee he performed valuable civic service for this community and fought unceasingly to keep the Providence schools unsurpassed in the country.

He is survived by his wife, Mary Francis (Coyle) Reynolds, a graduate of Smith College; one son, George E., Jr., and four daughters, Elizabeth, Mary, Ann, and Joan.

Dr. Reynolds was truly a home man. He loved his children dearly and took an active interest and keen delight in their pleasures and watched affectionately their progress and advancement. The loss of their father at their tender age will be greatly felt by them. His charm and geniality won him friends everywhere, political and professional. Through his activities in the city government in behalf of the school teachers of Providence, to whom his loyalty and devotion were extended without discrimination, he will be respectfully mourned.

WILLIAM HINDLE, M.D.

JOHN P. COONEY, M.D.

Rhode Island Hospital

SCHEDULE FOR JULY, 1938

MONDAYS:

Holiday, July 4
Surgical Grand Rounds, 10:00 A. M.
I Surg. Grand Rounds, July 18
II Surg. Grand Rounds, July 11, 25
Thoracic Clinic, 4:30 P. M.

TUESDAYS:

Gastro-Intestinal Clinic, 9:30 A. M.
Surgical Grand Rounds, 10:00 A. M.
II Surg. Grand Rounds, July 5, 19
I Surg. Grand Rounds, July 12, 26

WEDNESDAYS:

Tumor Clinic, 10:00 A. M.

THURSDAYS:

Orthopedic Grand Rounds, 9:00 A. M.
Thoracic Clinic, 11:30 A. M.

FRIDAYS:

Fracture Grand Rounds, 11:00 A. M.
Pediatric Grand Rounds, July 1, 15, 29
G. U. Staff Meeting, 7:30 P. M., July 1
Surg. Staff Meeting, 8:30 P. M., July 1

SATURDAYS:

Neurological Grand Rounds, 9:00 A. M.
Medical Conference, 10:00 A. M.



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Old News

THE OLD OAKEN BUCKET

(As censored by the Board of Health)

With what anguish of mind I remember my childhood,

Recalled in the light of knowledge since gained,
The malarious farm, the wet, fungus-grown wild-wood,

The chills then contracted that since have remained;

The scum-covered duck-pond, the pigsty close by it,
The ditch where the sour-smelling house drainage fell,

The damp, shaded dwelling, the foul barnyard nigh it —

But worse than all else was that terrible well,
And the old oaken bucket, the mold-crust-ed bucket,
The moss-covered bucket that hung in the well.

Just think of it! Moss on the vessel that lifted
The water I drank in the days called to mind,
Ere I knew what professors and scientists gifted
In the waters of wells by analysis find;
The rotting wood-fibre, the oxide of iron,
The algae, the frog of unusual size,
The water as clear as the verses of Byron,
Are things I remember with tears in my eyes.

Oh, had I but realized in time to avoid them
The dangers that lurked in that pestilent draft,
I'd have tested for organic germs and destroyed them

With potassic permanganate ere I had quaffed.
Or perchance I'd have boiled it, and afterward strained it

Through filters of charcoal and gravel combined;
Or, after distilling, condensed and regained it
In potable form with its filth left behind.

How little I knew of the enteric fever
Which lurked in the water I ventured to drink;
But since I've become a devoted believer
In the teachings of science, I shudder to think.
And now, far removed from the scenes I'm describing,

The story of warning to others I tell,
As memory reverts to my youthful imbibing
And I gag at the thought of that horrible well,
And the old oaken-bucket, the fungus-grown bucket —

In fact, the slop bucket—that hung in the well.
Unknown.

Copied from THE BEST LOVED POEMS OF THE AMERICAN PEOPLE, selected by Hazel Felleman, P. 386.



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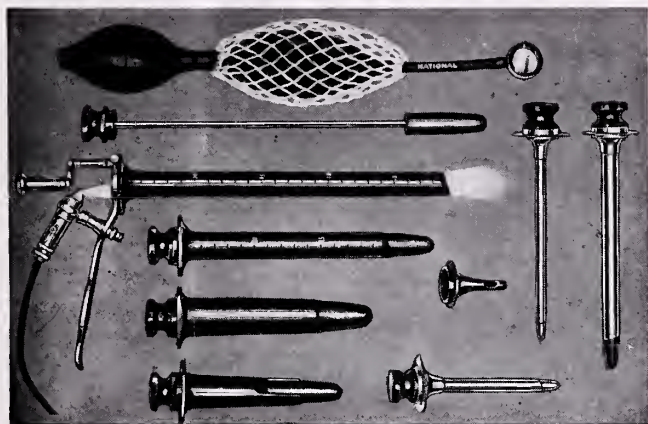
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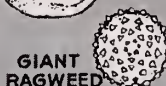
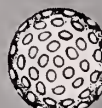
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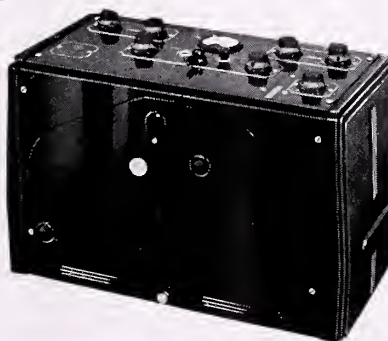
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BASIC OPERATIONS IN COMMERCIAL CANNING PROCEDURES

VI. COOLING THE TIN CONTAINER AFTER THERMAL PROCESSING

● On this page we have previously described certain basic operations in commercial canning procedures. These have included cleansing of the raw material; blanching; exhausting or pre-heating; sealing the tin container; and thermal processing of the sealed container. In this—the last of this series—we shall discuss the final basic operation, namely, the cooling of the sealed can immediately after the heat process.

One main reason for rapid and thorough cooling of the can contents—as soon as the objective of the heat treatment has been fulfilled—is more or less self-evident. Prompt cooling checks the action of the heat and thus prevents undue softening in texture or change in color of the food. Also important, particularly in the case of foods of an acid nature, is the prevention of excessive chemical action between the food and the metal container, which may occur if the contents of the can remain hot for an extended period of time. In modern practice, two types of cooling are commonly used, namely, air cooling and water cooling.

Air cooling, as the name implies, involves cooling of the tin container by facilitating radiation of its heat into the air. This type of cooling is adaptable to certain products in small cans. In other products, or in the case of larger cans, it is employed chiefly when the slower loss of heat, characteristic of this cooling method, is essential either for preservation of the food, or for the production of certain quality characteristics in the final product. Modern air cooling is accomplished in well ventilated, specially designed warehouses where the cans are piled in rows, allowing ample space between rows for efficient air circulation.

The several methods of water cooling and the technique by which they are carried out are detailed elsewhere (1). Briefly, water cooling may be effected in a variety of ways. The hot cans may be cooled by admitting water into the retort in which they were processed, or they may be cooled after removal from the retort by conveying the cans through tanks of cold, running water or through cold water showers. Large size, or irregularly shaped cans—processed under steam pressure—must be cooled in the closed retort at the end of the process to avoid undue strain on the containers. This is accomplished by “pressure cooling” in which pressure is maintained in the retort during the cooling of the cans, to counterbalance the pressure which develops during the process within the can itself. Commercially, cans are water-cooled to about 100°F. so that enough residual heat remains to dry the can exterior.

Present day canners are fully aware of the importance of cooling their products rapidly and completely as soon as the process is completed, in order to insure the production of canned foods with high quality characteristics. Consequently, in modern canneries the cooling operations are strictly supervised like the other basic operations in the commercial canning procedure. After inspection and labeling, the cooled cans are then ready to enter distribution channels for delivery to the consumer.

In this series of six discussions, we have attempted not only to describe the basic steps in commercial canning procedures, but also to explain their purposes. We trust this series may help bring a better understanding of this important method of food preservation.

AMERICAN CAN COMPANY

230 Park Avenue, New York, N. Y.

(1) 1936. A Complete Course in Canning, 6th Ed. The Canning Trade, Baltimore.

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THE SURGICAL ASPECTS OF PEPTIC ULCER

ROBERT ZOLLINGER, M.D.

BOSTON, MASSACHUSETTS

The good results obtained by the medical treatment of ulcer of the stomach or duodenum in the past decade have altered the surgeon's recommendations for treatment in these cases. Hospital records prior to 1926 indicate that the type of treatment the ulcer patient received often depended on whether he sought the advice of the physician or the surgeon. In the Peter Bent Brigham Hospital we find up to 1926 that 186 cases of peptic ulcer received medical treatment, as compared to 254 cases treated surgically (Fig. 1). In other words, during this period over one-half, or 57 per cent of all ulcer patients were operated upon. Between 1926 and 1932, 899 ulcer patients received medical treatment, as compared to 226 patients operated upon. The incidence of surgery dropped to 20 per cent of all ulcer patients treated. In the past six years, 1192 patients with ulcer received medical treatment and 95 cases were operated upon. The incidence of surgical therapy has dropped to 7.3 per cent. This clearly demonstrates our conservative trend toward the surgical treatment of this disorder. This conservative trend developed with the recognition of the fact that ulcer is a chronic disease and surgery was not a universal cure but a mechanical method of relieving the patients of their symptoms. The many operations advocated suggests that none was entirely satisfactory.

In our hospital we have come to recognize the fact that patients with peptic ulcer, like other chronic diseases, may be divided into three groups: mild, moderate and severe, depending upon their response to treatment (Fig. 2). Patients with a mild form of the disease will respond exceedingly well to any accepted medical or surgical procedure. The moderate case will, in the majority of instances, likewise do well with either treatment. It is the severe case that taxes the ingenuity of the physician and leads him to consult the surgeon.

From the Surgical Clinic of the Peter Bent Brigham Hospital.

Read before the Rhode Island Medical Society, at the one hundred and twenty-seventh Annual Meeting, Providence, June 1-2, 1938.

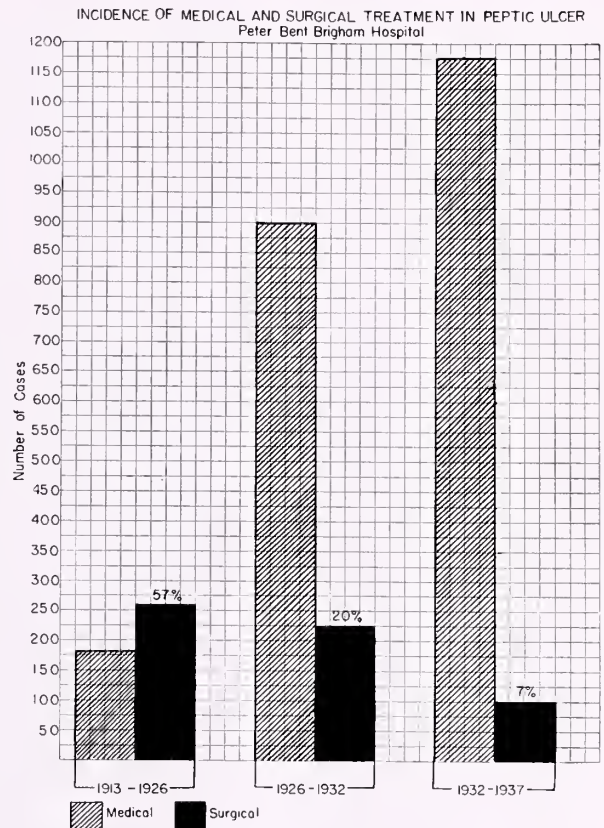


FIG. 1

With this preliminary consideration, what are the factors which the physician has to consider in the treatment of peptic ulcer (Fig. 2)? These are, (1) pain, (2) obstruction, (3) hemorrhage, (4) perforation, and, (5) the danger of malignancy. All of these factors, but pain, may become a surgical problem in either the mild, moderate or severe case. Intractable pain can be included as a surgical problem in the severe case. The decision to operate and the type of operation to be performed will depend upon whether the patient is in the mild, moderate or severe group. With the exception of free perforation of an ulcer, it may be said that surgery should not be contemplated unless the case has been thoroughly analyzed and enough informa-

FIG. 2

<i>Clinical Types of Ulcer Patients</i>	
1.	Mild
2.	Moderate
3.	Severe
<i>Factors to Be Treated in Ulcer Patients</i>	
1.	Pain
2.	Obstruction
3.	Hemorrhage
4.	Perforation
5.	Danger of Malignancy

tion obtained to plan the operation suitable to the individual.

The surgeon should take into consideration the following data (Fig. 3). First, he must know not only how long the patient has been on medical treatment but also the quality of such treatment. Surgery should never be considered if the patient has had only casual medical treatment. Every patient should have the benefit of a trial by the well established "adequate medical regime."

The surgeon should be influenced by the location of the lesion because of the frequency of malignancy in certain areas. Gastric ulcers within one inch of the pylorus should be considered malignant and early surgery advised, regardless of the age of the patient, findings by gastric analysis, or apparent early improvement clinically and by x-ray. If such lesions are not resected the patient should be subjected to frequent rigid examinations for an indefinite period. Likewise, ulcerations on the greater curvature, or a very large ulceration, should be considered malignant and resection advised. In a study of 333 consecutive verified cases of ulceration of the prepyloric or pyloric regions by Dr. D. A. Sampson¹ of the Department of Roentgenology in the Peter Bent Brigham Hospital it was found that ulcerations in these regions have a 76 per cent chance of being malignant.

The degree of acidity and amount of gastric acidity is all too frequently disregarded by the surgeon. We believe that these factors are of fundamental importance. Short circuiting procedures, such as gastro-enterostomy, and even small resections in the presence of high acid values or excessive amounts of gastric secretion (by that we mean "hypersecretion") not only fail to "cure" these

patients but leave them likely candidates for more serious complications, such as jejunal ulcers, gastro-colic fistula, etc.

Immediate surgery should not be advised even if the patient's symptoms and x-ray findings indicate complete pyloric obstruction. Remarkable avoidance of surgery may follow gastric lavage, nightly aspirations, bed rest and strict medical management. We do not advise surgery until this has been tried for a period of time and the roentgenologist finds a gastric retention persistently of 40 per cent or above.

The problem of surgery in the treatment of hemorrhage is far from settled. The statistics of Emery and Monroe² from the Peter Bent Brigham Hospital indicate that the result of surgical procedures in the treatment of the hemorrhage case is probably no more satisfactory than that following exacting medical treatment. We do believe surgery may be indicated in the patient of the severe group with hemorrhage and perhaps in certain patients with repeated or one massive hemorrhage from a posterior penetrating duodenal ulcer.

If there has been a previous surgical procedure for ulcer the surgeon should have studied the records of this previous operation, as well as the x-ray evidence. It is a mistake to "take down" a gastro-enterostomy after recurrent ulceration or a gastro-jejunal colic fistula and restore the structures to normal continuity. The tendency for the original ulceration to recur is great, and failure usually follows. Such patients are frequently in the severe group and require the removal of a large amount of acid-bearing tissue.

The importance of considering the prepyloric lesion malignant can be illustrated by the following case. A man, twenty-seven years of age, presented the symptoms of peptic ulcer for about one month previous to entry to the hospital. He gave a history consistent with acute gastritis, following excessive intake of alcohol on three separate occasions over a period of six months. A gastro-intestinal series demonstrated a prepyloric ulcer. The patient was placed on a strict Sippy regime with bed rest for a period of several weeks. His gastric analysis showed free acid, as high as 60. He was relieved of his symptoms and by check-up gastro-intestinal series in several weeks showed an improvement in the size of the ulcer. However, because of its location, he was followed closely and x-rays were taken within another month. These showed that the ulcer had

FIG. 3

*What Data Should the Surgeon Have
Before Operation?*

1. Amount and quality of medical treatment.
2. Location of the lesion.
3. Degree and amount of gastric acidity.
4. Degree and duration of obstruction.
5. Incidence and source of hemorrhage.
6. Any previous surgery.

increased in size. Immediate surgery was recommended. The distal three-fourths of the stomach was resected, finding a carcinoma in the prepyloric region. The patient died of metastases within three years.

This case demonstrates the seriousness of the prepyloric ulcer, despite the age of the patient, apparent early improvement clinically and by x-ray, and despite high acid values by gastric analysis.

The one type of case in the so-called "severe" group of ulcer patients that must be recognized before surgery is attempted is the patient with hypersecretion. By hypersecretion we mean that these patients secrete an excessive amount of hydrochloric acid with high acid values by analysis.³ We have come to consider it as an abnormal condition occurring in ulcer patients. These patients fall into the severe group of ulcer cases because they have a tendency to form marginal ulcers after short circuiting operations. Often they have severe, intractable pain which is difficult to control and in general they respond poorly to medical treatment. They frequently respond poorly to alkaline therapy and have a tendency to go into alkalosis while under treatment. These are the very nervous, high strung, thin individuals that flush easily and have moist palms. This condition can be confirmed by the finding of a copious and continuous secretion in the empty stomach as determined by the stomach tube. If surgery is necessary, an extensive resection is indicated unless the patient is a very poor risk. With the early beneficial results indicated by the constant drip method of administration of aluminum hydroxide, medical treatment may further decrease the number of these severe cases coming to surgery.

It is apparent that one of the major problems confronting the surgeon in the treatment of these severe cases is to diminish the volume of acid secreted. We have proven to our own satisfaction that removal of the antrum is not sufficient in the majority of cases and removal of a large amount of acid bearing tissue is absolutely essential. Although simple removal of the ulcer bearing area with anastomosis of the duodenum to the remaining portion of the stomach best answers the experimental and physiological requirements, we have been disappointed by the follow-up observations in a series of such operations. The surgeon, by removing a very large amount of the acid bearing tissue, may not be able to lower the acid values, as shown by gastric analysis months after the resection, but it is our belief that there results a considerable decrease in the volume of acid secreted which protects the patient from recurrent ulceration. The following experimental observations indicate how this may be accomplished. A large amount of the acid bearing tissue was removed in animals, leaving practically nothing but a tube along the lesser curvature.⁴ Gastric analysis over a period of six months showed a return of the acid values to the pre-operative levels. However, cross-section studies of the normal stomach and the postoperative stomach, demonstrated how the volume of acid had been decreased. Although the postoperative stomach has returned to the size of the normal, the reduplication folds of mucous membrane shown in the normal were absent. In other words, there had been a tremendous decrease in the acid bearing surface. The hydrochloric acid is secreted at a fixed concentration which is not altered, but the volume is so altered that the alkaline juices are now able to neutralize the decreased volume of acid, despite the high value.

This following case report illustrates the failure of small resections to relieve the patient with hypersecretion. A nineteen year old boy entered the hospital in November, 1932 because of a severe gastric hemorrhage. He had a massive hemorrhage in April, 1932. Symptoms and x-ray findings on admission indicated a posterior penetrating ulcer of the duodenum and because of its location and the massive hemorrhage, surgery was advised. The ulcer-bearing area was removed with a portion of the pylorus. This patient had a recurrent hemorrhage in 2½ years and another hemorrhage in 5 years after the pylorotomy. Gastric analysis

5 years after the pylorectomy showed as much as 370 cubic centimeters of gastric juices with a free acid of 80 and a total acid of 90. He had a recurrent duodenal ulcer. This is an example of an overlooked case of hypersecretion where an inadequate resection was done and the patient had not been relieved of his symptoms. We can predict that this individual will continue to get into difficulty until a large amount of his acid bearing tissue has been removed by a radical resection.

It is apparent that the surgeon must be prepared to carry out a variety of operations in the treatment of ulcer, depending upon the individual case. All too frequently, we believe, there is a tendency to carry out his particular operation without sufficient consideration of the factors we have mentioned. The following types of operations are useful in accomplishing the objectives of surgery. We believe simple closure of a perforation is all that is justified in cases of perforation. The use of constant gastric suction during the early postoperative period makes it unnecessary in the majority of instances to add any other surgical procedure for relief of the temporary obstruction produced by the operative procedure.

Gastro-enterostomy is no longer a routine surgical treatment for all cases of peptic ulcer. We believe it is indicated (1) in pyloric obstruction with low acid values, except in young individuals; (2) where technical difficulties prevent resection or make it a hazardous procedure; and, (3) in poor risk patients whose general condition requires the simplest type of surgical procedure possible. The failures in gastro-enterostomy occur in the cases of ulcer of the severe group, especially with high acid values or hypersecretion. Such patients are prone to develop marginal ulcers, etc., leaving them in a worse condition than before operation. We would not recommend a gastro-enterostomy for gastric ulcerations near the pyloric end of the stomach because of the dangers of malignancy. We have seen such mistakes made. Gastric resection and not gastro-enterostomy should be the surgical procedure of choice in the bleeding case.

The Billroth I operation appears to be the physiologic type of procedure. After removal of varying amounts of the stomach or duodenum, the duodenum is re-anastomosed along the lesser curvature to the stomach. We have felt that this procedure was the physiologic type of operation for peptic ulcer and should be used in the majority of cases where

massive resections are unnecessary. We have performed this operation in 26 cases and late follow-up studies have been disappointing because recurrent ulceration has taken place in about 20 per cent of the cases followed. Therefore, this type of procedure should not be attempted when extensive resection is advisable. Although the mortality figures of this procedure are very low, we feel that poor risk patients should not be subjected to resections, but to a simpler type of operation, such as gastro-enterostomy. This type of operation should not be performed in the obvious hypersecretion case or the very nervous type of individual suggesting such a constitutional make-up, as they may later prove to be a hypersecretion case. The dilated stomach of obstruction should have a gastro-enterostomy except in young individuals with high acid values when the stomach may be prepared by repeated lavage, etc., so that resection can be safely done.

Some surgeons perform the Billroth II type of operation. There may be a tendency, however, for the surgeon not to remove enough acid bearing tissue in some of the severe cases because he must leave enough stomach for a gastro-enterostomy. We are, therefore, convinced that some type of Polya operation is indicated in the severe cases. Various modifications of this principal of resection are very satisfactory. It permits an extensive resection of the stomach as desired, without the mental reservation of saving enough stomach to make some other type of procedure technically easier to perform. This type of operation, we believe, is indicated (1) in cases where malignancy is present or suspected; (2) in ulcerations high on the lesser curvature; and, (3) when it permits removal of large amounts of acid bearing tissue so essential in the treatment of the hypersecretion case.

Conclusions

I should like to stress the importance of considering surgical therapy in the treatment of peptic ulcer as a mechanical step in the removal of certain factors which complicate the medical treatment of this chronic disease. Certain data have been emphasized that must be obtained by the surgeon before operation is considered. Each case must be judged on its own merits as to when surgery is advisable and what type of surgery should be carried out. Finally, following surgery the ulcer patient should be considered a medical problem and medical treatment continued for an indefinite period.

BIBLIOGRAPHY

1. Sampson, D. A. Personal communication.
2. Emery, Edward S. Jr. and Monroe, Robert T., Peptic Ulcer: Nature and treatment based on a study of one thousand four hundred and thirty-five cases. *Arch. of Int. Medicine*, **55**: 271-292; Feb. 1935.
3. Emery, Edward S., Treatment of peptic ulcer complicated by hypersecretion. *N. E. J. of Medicine*, **210**: 637-641; March, 1934.
4. Seeley, Hall and Zollinger, Robert, Fundusectomy in the treatment of peptic ulcer: An experimental study. *S. G. & O.* **61**: 155; 1935.

DISCUSSION

DR. RUSSELL S. BRAY: It is exceedingly refreshing to hear a surgeon who is well known as an investigator and clinician frankly state that the treatment of peptic ulcer still remains largely a medical problem.

Dr. Zollinger has correctly stated that peptic ulcer is a chronic disease—a disease of unknown etiology, with characteristic phases of activity and symptomatic quiescence. I use the latter term because I am frequently able to demonstrate an ulcer crater in patients who have long remained symptom-free. It is of particular importance for the patient with ulcer to carefully continue treatment for a minimum of one year, regardless of symptoms. The longer I follow large groups of patients with ulcer the more certain I am that recurrence in the majority is to be expected. We should avoid thinking of ulcer as a mere local lesion to be easily and quickly cured.

Dr. Zollinger has used the term "adequate medical regime." Inasmuch as there has been a wide variety of nonsurgical methods advocated for the treatment of ulcer, it may appear difficult to prescribe a single form of therapy which constitutes adequate treatment. Suffice it to say that the orthodox regime has stood the test of time; furthermore, it is an economical, easily followed, and generally satisfactory method. My experience with certain widely advertised forms of parenteral therapy has been such as to rarely justify their use. It is usually not difficult to relieve the symptoms of ulcer but the remedy or program which accomplishes this must not be regarded as a panacea.

I am not entirely in accord with the view that every prepyloric ulcer must be regarded as a malignant lesion and therefore be resected. Microscopic study of the resected tissue in our clinic and private patients has shown a very low incidence of malignant degeneration. I refer only to tissue which has shown indisputable evidence of malignant change. Dr. Zollinger's statistics show an unusually high percentage of malignant gastric ulcers. It is difficult not to believe that a large portion of this group represents true ulcerating carcinoma rather than the transformation of a benign to a malignant lesion. In any case, every gastric ulcer regardless of its size or location must be carefully and repeatedly studied. When in doubt as to the exact nature of the lesion, surgery is justified.

I am skeptical of the medical management of the obstructing ulcer. It is true that medical therapy frequently relieves obstruction, but the majority of our patients who have passed through at least one attack of obstruction which has been relieved by medical therapy, have later returned because of recurring symptoms and usually surgery has been required.

The very important matter of hypersecretion has been adequately discussed by the speaker. Unfortunately, surgeons all too frequently disregard the important information obtainable by gastric analysis. It is a simple matter to perform the test, but an experienced observer should interpret the findings.

It has been a pleasure to hear such a broadminded and comprehensive discussion of this important subject.

RECENT ADVANCES IN THE PATHOLOGY OF DIABETES MELLITUS

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It was less than 50 years ago we realized that the pancreas had anything to do with diabetes, and only 40 years ago that we realized that the islands of Langerhans had anything to do with diabetes. The discovery of insulin by Banting and Best and the studies by Robinson and Wilder of island cell carcinoma gave us our first definite proof of the connection of the islands with the secretion of insulin.

The normal island of Langerhans contains three types of cells: the alpha cells of unknown function, the beta cells concerned with secretion of insulin, and the D cells of unknown function.

While we commonly think of the island cells as relatively inert, actually they have some power of regeneration. Allen some years ago said that the pancreas in diabetes represented a scarred battlefield, a static conception. I am not in agreement. The pancreas as we see it in diabetes is a record of the injurious agents acting upon the pancreas plus efforts of the pancreas to compensate for those injuries, a dynamic conception.

Hyaline change was the first specific alteration of the islands noted in diabetics. This classic lesion was first discovered by Opie 40 years ago. This deposition of hyaline material in the islands, with none in the acini, is not a result of diabetes, but precedes the development of diabetes. This hyaline often gives the staining reactions for amyloid. It is laid down between the capillaries and the epithelial cells. In that location it has two-fold action: first, as it accumulates it tends to compress the epithelial cells and, secondly, it places a barrier of steadily increasing imperviousness between the blood supply of the islands and the epithelial cells. Thus it becomes increasingly difficult for them to maintain nutrition and get their hormonal output into the blood stream.

The pancreas and islands do not take injury lying down, and sometimes the hyaline masses are very large, showing that regenerative effort on the part of the pancreas barely kept ahead of the laying down of hyaline about the island cells.

Notes on an Address before the local group of the American College of Physicians, at the Peters House of the Rhode Island Hospital, March 15, 1938.

Nowadays we do not know what changes diabetic children may show, as deaths are very rare. In the early days and before insulin therapy we did get a number of deaths among children which showed little island tissue remaining, some islands entirely replaced by lymphocytic infiltration. How long infiltration will persist, I do not know, but it may well go on to fibrosis and scarring of the islands, which we find in young adults at times.

While hemachromatosis is a disease in which the liver involvement is the main factor, as the liver fills with pigment, this spills over and is deposited in the pancreas, damaging the islands. In bronze diabetes we have almost a parallel of experimentally produced diabetes as it is produced by a known etiologic factor, the disturbed iron metabolism. It is comparable clinically in many regards to the ordinary spontaneous diabetes. However, since the liver is damaged, some cases have shown marked insulin resistance. One who required tremendous amounts of insulin, 900-1200 units, and still was not sugar-free, died in coma after receiving 1800 units. Apparently this was due to extensive hepatic damage.

But few cases can stand large amounts of insulin. The clinical syndrome of hyperinsulinism either induced or spontaneous is well known so I will not speak of it. Two points, however, have medico-legal significance. First, hypoglycemia is readily confused with drunkenness. Second, a diabetic dying in hypoglycemia may not be recognized as such at autopsy.

Twenty-five per cent of diabetic pancreases show no pathology. This array of apparently perfectly good diabetic pancreases leaves a puzzling gap for the pathologic anatomist. Shall he blame it on functional changes in the pancreas? Shall he blame it on the adrenal? Shall he blame it on the pituitary or on the sheer perversity of nature? We don't know. All we can say is that we have a residual group of diabetic patients who show no demonstrable change in their islands. This is a very hopeful thing because if they have good islands and we carry them through with insulin, they *may* ultimately be able to take up function again. One or two cases of severe diabetes have shown apparent resumption of insular function.

Rarely insulin administration may produce subcutaneous atrophy of fat.

Lipoid metabolism is disturbed in diabetes as well as carbohydrate metabolism. Diabetic patients have more gall stones than non-diabetic patients in

the same age group. Another evidence of disturbed lipoid metabolism, of small importance, is xanthoma diabeticorum. We ordinarily consider cholesterol once deposited is relatively inert, but if by diet and insulin we can remove these xanthomas of the skin, perhaps sometime we can remove it from the atheromas of the arteries. Through control of lipoid metabolism we can retard the progress of arteriosclerosis, which is the chief complication now in diabetes. The atheromatous type of arteriosclerosis ordinarily occurs only in elastic vessels, but in diabetics occurs in muscular vessels as well.

Coronary and cardiac infarcts are more frequent in diabetics than in any other group, even more frequent than in the sudden death series of the medical examiner.

We do not know the cause of arteriosclerosis, but we do know that the diabetic gets more arteriosclerosis than he should. We know also that he gets arteriosclerosis earlier than he should. We are learning that adequately treated diabetics apparently are not developing anywhere near the amount of arteriosclerosis that the old time diabetics used to. When I got out the first edition of my diabetic pathology I could not discover at autopsy a diabetic who had had diabetes more than five years who did not have definite arteriosclerosis of the atheromatous type. At the present time there are a very fair number who have no evidence of arteriosclerosis. Diabetic children are not showing nearly as much sclerotic change of their leg arteries by X-ray as they were prior to 1930.

Thus we find that 75 per cent of the cases of diabetes show definite pancreatic pathology. Adrenal pathology is most inconstant, and in practically no human case can changes in the adrenal be utilized to explain the existence of diabetes. Similarly, the known types of pituitary diabetes in the human differ somewhat from the usual form of the disease, and in the usual form of the disease we fail to find significant pituitary lesions. Various hypotheses as to the neurogenic origin of diabetes have been put forward, but in general these do not rest on a firm anatomic basis. We are justified in concluding, therefore, so far as the evidence of pathology is concerned that human diabetes is almost entirely pancreatic diabetes, and that quite possibly given adequate opportunity for the regenerative powers of the pancreas to develop, we may have actual cures of the disease.

CLINICAL ASPECTS OF TESTICULAR TUMORS

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Though it is true that the instance of testicular neoplasms is low as compared with tumors in general and as compared with new growths of the ovary in the opposite sex, nevertheless, the extreme degree of malignancy which such tumors frequently possess, makes their occurrence a very serious matter. It is important, therefore, to rehearse from time to time the clinical manifestations of such tumors, in order that the general practitioner who usually first sees such conditions may be kept aware of their extreme significance. The present review is based in part on a study of twenty-six instances of this disease in the Urological Clinic of the Peter Bent Brigham Hospital.

Various varieties of testicular tumor are found when the tissue is examined by microscope and there have been a number of controversial articles written concerning their classification, into which it is not important to go at this time. In general these tumors fall into the following classifications: 1. The embryonal tumor, or seminoma of the French, in which the embryological structure of the undifferentiated organ is reproduced. 2. The group of teratomas in which the tissue forming the tumor is very varied in character. Statistics have been collected, attempting to show that the one of these groups is more malignant than the other, but from a clinical point of view this is without significance because all testicular tumors as a rule possess marked malignant properties.

The spread of such tumors from the local site is first by way of the lymphatics upward to the nodes in front of and along side the aorta as high as the renal pedicle. The inguinal lymph nodes are not involved unless the tumor has grown to such an extent as to involve the tunics of the scrotum. The second way of spread is by the blood stream following which deposits in the lungs are frequently found.

All testicular tumors occur at an earlier age than do neoplasms of most other organs. In our own

series the average age of the patients was thirty-seven; the youngest being twenty and the oldest sixty. The majority of instances are seen in the fourth decade.

The relation of injury to the scrotum causing a tumor of the testicle is interesting, and in various reported series these growths have been related to trauma in as high as 20% of the cases. In other instances the history is given that following a relatively slight injury a testicular tumor of no significance to the bearer before, takes on very rapid progress after such injury.

There are varieties in the clinical history of these tumors worth noting. In the first place the tumor may be of very slow growth with a rather long latent period, following which it suddenly increases in size. In such instances it is usual to find that the growth has developed slowly, insiduously and painlessly. An important finding present in many instances is early loss of the normal testicular sensation. When a patient presents himself for advice the tumor may be either so small as to be hardly palpable or on the other hand really enormous. A second clinical variety called by English writers the "hurricane type" is formed by cases in which, either with or without operation, the spread of the growth is extremely rapid causing widespread general metastases and early death. Cases are on record of death in three weeks following operation. In our series there was one instance in which the patient, apparently normal except for the testicular neoplasm, when operated on, was dead two months later, only eight months after his first symptom.

Another type seen clinically is the patient who presents himself with an unobtrusive local growth, complaining only of symptoms due to the metastases. Such may be the presence of an enlarged gland in the neck or in the axilla. Metastases to bone are rare but frequent to the lung, in which case there sometimes occurs hemoptysis. Other symptoms may lie in the digestive tract due to interference by abdominal masses of secondary deposit.

A fairly frequent manifestation of these neoplasms is the occurrence of gradual hypertrophy of the breast. This may be bilateral or only unilateral,

From the Urological Clinic of the Peter Bent Brigham Hospital.

Read before the Rhode Island Medical Society, at the one hundred and twenty-seventh Annual Meeting, Providence, June 1-2, 1938.

and has been shown to be caused by definite increase in the lactiferous ducts. The explanation of this phenomenon is doubtless stimulation of the breast by a circulating hormone elaborated by the testicular new growth. This hormone is found in the urine of many of these patients and causes the same biological test as does the urine in pregnancy of the opposite sex. In other words the Asheim-Zondek test is positive. But not all cases with a positive test show these hypertrophic breast changes.

The relation of testicular new growth to malposition of the testicle forms another very interesting chapter, for there is without doubt some correlation between these two conditions. In our series there are two instances of tumor in individuals whose testicle lay in the inguinal canal and one in an individual with an entirely retained abdominal testicle. This latter condition must always be borne in mind in making a differential diagnosis of a retroperitoneal abdominal mass, if it be situated in the pelvis of a man with a retained testis. Two such cases are on record in which the diagnosis was confused with that of an appendix abscess.

Just how frequently the undescended or completely retained testicle is involved in subsequent malignant disease is not clear but this relation is stated to be as frequent as from 15% to 25% by various writers, and it is pointed out further by some that there is a rather high and entirely unexpected incidence of malignant disease in cases in which operation is undertaken after puberty to replace the undescended testicle in its normal position.

The differential diagnosis of testicular neoplasm lies most clearly between gumma, tuberculosis, or some inflammatory condition other than tumor. Therefore, in studying patients one must endeavor to investigate them carefully for evidences of these conditions. But even in the absence of tuberculosis or syphilis the diagnosis may be in doubt. This is so true that all surgeons should make it a definite rule to investigate every enlargement of the testicle by open biopsy in which diagnosis appears at all doubtful, and to do this immediately before time is lost by attempted palliation. A patient complaining of a scrotal mass which is not especially sensitive to palpation, is not accompanied by hydrocele, and does not transmit light should be looked on with the greatest suspicion and advised that the only proper way to reach a conclusion as regards diagnosis is by operative investigation.

Treatment

Although in earlier years attempts were made to remove the area of lymphatic drainage in the abdomen in instances of testicular tumor as an addition to orchidectomy, further anatomical knowledge of the lymphatic drainage area has shown this procedure to be hardly feasible. Also during the past decade it has been shown definitely that many of these tumors are especially sensitive to radiation by deep x-ray or by radium. The accepted treatment, therefore, today is that of immediate removal of the testicle by section of the spermatic cord at the external inguinal ring, followed by one or two courses of deep x-ray therapy applied to the whole abdomen as high as the level of the kidney. In instances in which the tumor is radio-sensitive this treatment will be of marked benefit. Unfortunately, however, we have no accurate index as to the radio-sensitivity of any tumor, although a guess may be made by its pathological character, the less differentiated tumors being the more sensitive. But even as in cases of Hodgkin's disease or leukemia in which radiation controls the disease for a time, so also in these testicular tumors, if the amount of tumor material is great, as in instances of multiple metastases, or even merely after the passage of several years, the metastatic tissue may lose its sensitivity and the patient die of his disease after all. I am not aware that any patient can really be said to have been cured of malignant metastases from testicular tumor by radiation although there are instances in which life has been prolonged as much as from seven to ten years.

Analyzing our own patients we find that there are seven living without apparent recurrence, two of them for as long as nine and ten years respectively; two are living, but since operation have had metastases which have been caused to disappear by deep x-ray therapy; two died, one five years and the other eleven years, after cardio-renal or circulatory disease not related to the neoplasm. We therefore find eleven patients out of twenty-six (42.3%) who are living, or who have died without recurrence. Fifteen patients have died—two of them of the "hurricane type"—within two months of operation and six within one year following operation. Four patients survived operation for over one and one-half years to four years, dying of recurrence.

Of our surviving patients four have had no other treatment than orchidectomy, and are still living

and well. They all presented themselves, however, before the advent of our knowledge concerning the efficiency of deep x-ray therapy, and today I would strongly advise a course of such treatment immediately following operation. Then, if there be no evidence of secondary malignant deposits, there is no logic in asking the patient to submit to further x-ray treatments.

In twelve of the patients who have died, x-ray was given intensively without effect. For two patients x-ray seems to have definitely held the disease in check. The history of one of these is of interest.

A man of forty-four came in August, 1928, complaining of a pain in the right groin which had followed an inadvertent step made while going downstairs in the dark. There was no actual injury to this area of the abdomen but the misstep was followed by sufficient pain to compel bed rest for a few days. This had occurred two years before. He was then well till a week previously when he was seized by a recurrence of this same type of pain, situated in the right groin and above the symphysis, and this time it was accompanied by severe dysuria. Never before had there been any urinary symptoms.

Examination showed an individual apparently well except for the fact that he had never had a right testicle in the scrotum. Examination of the bladder by cystoscope showed that it was flattened antero-posteriorly by a mass behind it, and on proctoscopic examination the mass was felt by the instrument just above the level of possible rectal palpation.

Operation was undertaken under a diagnosis of either a pelvic kidney or a tumor of an intra-abdominal testicle. The latter was found to be the correct diagnosis, and the tumor removed. He was given a course of deep x-ray treatment immediately after operation and again two months later. Three years later the patient reappeared, complaining of a lump in the thorax which caused his rib to bulge; a tender, enlarged liver and definite evidence of pulmonary metastases shown as a clouding of the base of the right lung. Intensive x-ray treatment was undertaken and two months later all evidence of malignant metastases had disappeared and the patient had gained weight.

Since this he has been followed at frequent intervals and now, on the expiration of ten years, has shown no further evidence of metastases.

The hormonal test has always been negative, however, so that in this case it has not been possible to use this test as an evidence of metastases present, but not demonstrable on physical examination. When the original tumor has been accompanied by a positive Asheim-Zondek test it is frequently possible to follow the patient's subsequent career by the amount of this hormone present in the urine, and thus the test serves as an index for the need of further x-ray treatment.

Another case of the typically foudroyant or hurricane type is the following:

A man of twenty-two with a left undescended testis, fourteen months ago noted pain in the groin on crossing the legs. Examination showed a lump the size of a marble. Eight months ago this began to increase in size. Otherwise he felt well till during the past six months when he began to lose weight—10 lbs.—and had to quit work. Six weeks ago he became hoarse and had an unproductive cough. Two weeks ago he noted a lump on the left side of the neck just above the clavicle. A physician on being consulted about the mass in the groin, felt that it could not be held by a truss and so referred him to the hospital. While waiting for an available bed he saw another physician who tapped the "lump" withdrawing rusty looking fluid. Also a non-tender mass in the abdomen was noticed. The patient now weighs 108 lbs.

Examination showed a firm, fixed mass above the sterno-clavicle joint on the left. There was also a mass in the left upper quadrant of the abdomen and a similar one in the left lower quadrant. There was a mass in the left groin and left gynecomastia. X-ray showed pulmonary metastases. The urine was negative. The Asheim-Zondek test was strongly positive—10,000 units. Bitterling test was positive in six hours. Much x-ray therapy was given followed by operation. However, the patient died two months after his admission to the hospital.

In concluding, four facts stand out clearly.

1. Neoplasms of the testis occur earlier in life than do other types of malignancy.
2. Frequently their growth is very rapid and overwhelming.
3. Immediate orchidectomy combined by intensive deep x-ray therapy offers the best chance for cure or control of the growth.
4. It is exceedingly important that exploratory biopsy be urged at once in any case of testicular abnormality the diagnosis of which is at all in doubt.

THE RHODE ISLAND MEDICAL JOURNAL

Medical Library Building
106 Francis Street, Providence, R. I.



CREIGHTON W. SKELTON, M.D.

In January, 1924, Dr. Creighton W. Skelton, having already had an experience of two years as Advertising Manager, was appointed Business Manager of the RHODE ISLAND MEDICAL JOURNAL. He continued in this appointment until his untimely death, on June 26, 1938.

Dr. Skelton inherited from the previous management a publication in satisfactory financial condition and with honorable traditions of sixty-five years duration. Established in 1859 as the *Transactions* of the Rhode Island Medical Society, it had been continued between 1900 and 1917 as the *Providence Medical Journal*. In January, 1917, it was purchased from the Providence Medical Association and was renamed THE RHODE ISLAND MEDICAL JOURNAL. The successive managers of this Journal were Joseph F. Hawkins, Winthrop A. Risk, Bertram H. Buxton, Frank M. Adams, Creighton W. Skelton.

According to the contemporary report of the Publication Committee, Dr. Skelton "assumed the

duties incidental to this office, which he has conducted in his usual energetic and successful manner." He aimed at constant improvement in the Journal, both in its reading matter and in the advertising pages; perfect typography, attractive form, better paper, no advertisements in the reading columns. In close collaboration with the Editor, Dr. Frederick N. Brown, he printed the roster of members of the state society, published news items from the hospitals of the state, presented regular reports of the financial and editorial conditions of the Journal.

Dr. Skelton appreciated the need and worked for fuller cooperation between the state and district societies, providing complimentary subscriptions to the Journal for all members of the district societies and even for physicians registered in Rhode Island who belonged to no medical society. In the affairs of the state society he was active, with outspoken opinions. He waged constant warfare against quackery in all its forms. As Chairman of the Committee on Exhibits of the Rhode Island Medical Society, he made the commercial and scientific exhibits a valuable feature of the annual meetings of the society.

By 1928, Dr. Skelton had accomplished such efficiency in the management of the Journal that he was able to return to the treasury the entire amount appropriated for its support for that year. This feat he repeated in each of the ten succeeding years. In addition to this, he contributed some substantial sums of money and provided an annual banquet for the members of his editorial board with the officers and many members of the society. Many of us remember the banquet given in 1933, in honor of Dr. E. H. Cary, then President of the American Medical Association. Few realize that Skelton paid the entire expense. Altogether he must have contributed to the treasury of the society in one way or another sums in excess of five thousand dollars.

Handicapped by the general financial depression and by a long and distressing illness, Dr. Skelton's conduct of the Journal during the last years of his life could not be so profitable. His life was also saddened by evidence of lack of present confidence among those whom he had previously so benefited. Yet he carried on to the last day of his life and succeeded in maintaining his Journal in satisfactory condition.

The Journal seeks a Business Manager. Yet it cannot hope to find another Skelton.

MEDICAL SOCIETY ACTIVITIES

In his Presidential Address Dr. Abell said, "The physician in practice—is widening his sphere of responsibility from the care of patients to that of the community of which the patients are a part. Sanitation, immunization, maternal and child welfare, antepartum care, public health nursing, mental and social hygiene are a part of this program." In reading this we feel that we are being complimented beyond our deserts. Relatively few practicing physicians have exercised any real leadership in developing the programs of immunization, public health nursing or mental hygiene. Most of the force has come from local or national public health organizations and from public spirited lay citizens. The program of widespread immunization against diphtheria, for instance, received in most communities little help from the practicing physicians until other organizations had given it a wide publicity.

In view of the increasingly rapid changes that are being made in our social structure, and considering the obviously impending enlargement of government activity in the medical field, we shall do well if we keep ourselves informed on matters of public health, endeavor to take the lead in valuable programs, and in general increase the power and prestige of the medical profession.

To get down to brass tacks, the Tuberculosis situation in Rhode Island is not satisfactory. Although much good work has been done by physicians, and the private and public agencies have accomplished a great deal by propaganda and by examining the poor, it is still evident that the methods of tuberculosis control are not being used as they easily might be.

The greatest number of cases are not diagnosed until moderately advanced. No concerted effort has been made to have food handlers X-rayed or to have children's nurses examined at all. Cases are seldom reported to the State Department of Health as required by law. In general there is not enough effort made to X-ray all the contacts.

This Tuberculosis situation offers a splendid chance for the County Societies to initiate a publicity drive for the tuberculin testing and X-raying of certain groups of the population that have been shown to be the most likely to spread this infection. This should be done. We are the ones to do it. Such drives are well underway in some communities, notably in Detroit.

RHODE ISLAND MEDICAL SOCIETY

Proceedings of the One-Hundred and Twenty-seventh Annual Session*(Continued from page 112)***Annual Meeting**

The one hundred and twenty-seventh Annual Meeting of the Rhode Island Medical Society was held on Wednesday and Thursday, June 1st and 2nd, 1938. Mornings were devoted to clinical work and afternoons to the reading and discussion of papers.

Wednesday morning, clinics were held at Butler Hospital, Memorial Hospital, Providence Lying-In Hospital, and St. Joseph's Hospital. Butler Hospital presented neurological and psychiatric cases, and a motion picture film showing the care of patients in a mental hospital. Memorial Hospital presented operative clinics by the surgical and the urological staff. The medical service demonstrated cases of peripheral vascular disease; the pediatric service, cases of glandular disfunction. The eye, nose and throat department showed the use of sulfanilimide in oto-laryngology. The skin, orthopedic and X-ray departments demonstrated cases. These dry clinics were held in the Nurses' Auditorium with an attendance of ninety. The Providence Lying-In Hospital presented a symposium on care of newborn babies, followed by a symposium on the pelvis and the X-ray. This included the old and new classifications of the pelvis and the place of the X-ray in obstetrics. At St. Joseph's Hospital there were surgical operative clinics and dry clinics by various departments; surgical, medical, neurological, gynecological, orthopedic, pediatric, obstetrical, urological, eye, nose and throat.

At each of the hospitals, luncheon was served at 12:45 P. M.

Thursday morning, clinics were held at the Rhode Island Hospital, Charles V. Chapin Hospital, Miriam Hospital, and Homeopathic Hospital of Rhode Island. The Chapin Hospital presented cases of thoracic disease, cases of syphilis and of skin diseases, and a seminar on the use of prontosil in the treatment of infectious diseases. Miriam Hospital showed medical and surgical cases. At the Homeopathic Hospital there were demonstrations of surgery, urology, bronchoscopy and the X-ray. At the Rhode Island Hospital there were operative clinics by the departments of surgery, gynecology, eye, ear, nose and throat. Dry clinics were held by

the fracture service, the cardiac department, the X-ray department, and the departments of physical therapy, orthopedics and pediatrics. In the Peters House Auditorium, demonstrations were given by the departments of neurology and of medicine. The medical clinic was conducted by Dr. Alvah H. Gordon, Associate Professor of Medicine at McGill University. This clinic was followed by a clinic for thoracic diseases and a tumor clinic. Following these clinics, luncheon was served at each of the hospitals. While the dry clinics and demonstrations were well attended, the operative clinics failed to attract the interest which they merited.

The afternoon sessions were held at the Rhode Island Medical Library. Wednesday afternoon the meeting was called to order by the President, Dr. Walter C. Rocheleau, at 2 o'clock. Following the report of the Secretary, the President recognized the delegates from other New England states. Dr. Wilfred Pickles reported for the Trustees of the Fiske Fund that no essay worthy of the premium had been submitted on the subject "Surgery in the Treatment of Disorders of the Autonomic Nervous System." This is the third consecutive year without an award of the Fiske Fund Prize. The Trustees offer for 1939 a premium of \$150.00 for the best essay on the subject "Caesarean Section—Indications and Contraindications for the Various Types of Operations."

For the afternoon and evening sessions the President arranged programs of valuable papers on varied topics, each one of interest to the general practitioner of medicine. Dr. Edward S. Brackett presented the report of the Committee on Maternal Mortality, Dr. Clifton B. Leech read on "Painful Shoulders in Association with Coronary Artery Disease." The remainder of the program depended entirely upon the distinguished guest speakers. However a number of the demonstrations at the morning clinics were admirable additions to the program. These contributions came from members of the Providence Medical Association and the Pawtucket Medical Association. The voices of Kent, Newport, Washington and Woonsocket were silent.

The first number on the Wednesday program was given by Dr. Robert M. Zollinger, Associate in Surgery at Harvard Medical School, on the subject "Surgical Aspects of Peptic Ulcer." It was discussed by Drs. Bray, Cooke, Corvese and Zollinger. It is printed in this number of the Journal.

The second paper, "Clinical Aspects of Testicular Tumors," was given by Dr. William Carter Quinby, Clinical Professor of Genito-Urinary Surgery at Harvard Medical School. It will be published in an early issue of the Journal. "Factors in Maternal Mortality in Rhode Island" by Drs. Edward S. Brackett and Milton Goldberger was read by Dr. Brackett. It has been printed in the July Journal. The fourth paper, "First Aid Treatment of Injuries of the Face and Jaws," was read by Dr. V. H. Kazanjian of Boston and was discussed by Dr. I. Gerber. In this interesting paper Dr. Kazanjian stated that a thorough examination, often under an anesthetic, is required in injuries of the face and jaws to avoid complications and to insure good results. Competent X-ray examinations of the bones of the head and of the lungs should often be made, the latter to detect any foreign bodies which may have been inhaled at the time of the accident. If scars have resulted cosmetic operations to correct them cannot be carried out for some months after the accident.

At the conclusion of the afternoon program, a buffet supper was served in the Medical Library Dining Hall.

The speakers at the Wednesday evening session, held in the Medical Library, were three members of the McGill University Faculty of Medicine. Dr. Herbert M. Elder, Lecturer in Surgery at McGill, addressed the society on the subject "Diagnosis and Treatment of Peripheral Vascular Disease." Dr. I. M. Rabinowitch, Assistant Professor of Medicine, treated "Diabetic Coma." Dr. Alvah H. Gordon, Professor of Medicine, spoke on the subject "Diagnosis of Diseases with Coincident Enlargement of the Liver and Spleen." These lectures were delivered without notes. They were highly appreciated by the members of the Society.

The first paper of the Thursday afternoon program, "Painful Shoulders in Association with Coronary Artery Disease" by Dr. Clifton B. Leech, has been printed in the July Journal. The second paper was given by Dr. Cleophas P. Bonin, Instructor in Orthodontia at Harvard Dental School, on the subject "Pediatric Significance of Malocclusion." This paper, illustrated with motion pictures, emphasized the need for cooperation between physicians and dentists. Dr. Bonin indicated the role of dental malocclusion in the causation of mouth breathing and stressed the importance of early dental care in the conservation of health.

Dr. Richard M. Smith, Assistant Professor of Pediatrics and Child Hygiene at Harvard Medical School, then spoke on the topic "Do We Consider the Child as a Whole?" Dr. John R. Richardson, Assistant in Laryngology at Harvard Medical School, read a paper on the subject "Nasal Airways." Dr. Clarence E. Bird, Professor of Surgery at the University of Louisville, Kentucky, presented an address on "Physiology, Pathology and Treatment of Diseases of the Esophagus." Each of these papers will be published in the fall issues of the RHODE ISLAND MEDICAL JOURNAL.

The scientific program was completed by the Presidential Address, delivered by Dr. Walter C. Rocheleau.

Officers for the ensuing year were then inducted into office as follows:

President..... Dr. Edward S. Brackett
First Vice President..... Dr. Charles H. Holt
Second Vice President..... Dr. Lucius C. Kingman

The Annual Dinner was served at the Pomham Club, Thursday evening. Dr. T. Frank Kennedy, Anniversary Chairman, introduced the Dean of Brown University, Samuel T. Arnold, Ph.D., who gave an interesting and illuminating address on "Premedical Education." Dean Arnold was followed by Mr. John C. Cosseboom of Woonsocket who entertained the Society with a "Defense of the Fisherman."

This ended one of the most successful meetings of the Rhode Island Medical Society. Arrangement of the commercial exhibits was the last of the many services which have been rendered to the Society by Dr. Skelton. The exhibitors were:

Boss & Seiffert Company, Providence
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 George L. Claffin Company, Providence
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 Coca-Cola Company, Providence
 The Crooker Press, Providence
 Davies, Rose & Company, Ltd., Boston
 H. G. Fisher & Company, Boston
 Hood's Milk, Providence
 Liebel-Flarsheim Company, Cincinnati, Ohio
 Mead Johnson & Company, Evansville, Indiana



THE DOCTOR

Few visitors at the Chicago Century of Progress Exposition missed seeing the life size, relief reproduction of Sir Luke Fildes masterpiece "The Doctor." It was prepared at an expense of \$250,000 as an exhibit of the Petrolagar Laboratories. Designed to remind the public of the importance of the family physician, it required the full time of the late Chicago sculptor, John Paulding, and the noted artist, Rudolph Ingerle, with a large corps of assistants, and took nearly a year to complete. Following two World's Fairs, "The Doctor" Exhibit went on a tour of 50,000 miles and was viewed by over five million people in eighteen principal cities throughout the country. It was recently presented by its owners to the new Rosenwald Museum of Science and Industry in Chicago. In its new location it will be seen by millions of visitors annually.

AMERICAN COLLEGE OF PHYSICIANS

The Twenty-Third Annual Session of the American College of Physicians will be held in New Orleans, with general headquarters at the Municipal Auditorium, March 27-31, 1939. Dr. William J. Kerr of San Francisco is President of the College and will have charge of the program of general scientific sessions. Dr. John H. Musser of New Orleans has been appointed General Chairman of the Session, and will be in charge of the program of clinics and demonstrations in the hospitals and medical schools and of the program of round table discussions to be conducted at the headquarters.

The poverty of a patient and the mutual professional obligation of physicians should command the gratuitous services of a physician. But endowed institutions and organizations for mutual benefit, or

for accident, sickness and life insurance, or for analogous purposes, have no claim upon physicians for unremunerative services.

From the Code of Ethics of the A. M. A.

Rhode Island Hospital

REUNION OF FORMER INTERNS

The second reunion of former interns will be held at the Rhode Island Hospital on Friday and Saturday, September 9 and 10, 1938. The committee in charge includes all of the committee who arranged the successful meeting in 1933, with several additional members. Dr. Herman C. Pitts is General Chairman; Dr. Henry S. Joyce, General Secretary and Treasurer. The Committee on Programs: Elihu S. Wing, Chairman, Joseph C. O'Connell, Albert H. Miller, Roland Hammond, Arthur H. Ruggles, Frank M. Adams, Henry E. Utter, Herman A. Lawson.

The Committee on Entertainment: Bertram H. Buxton, Chairman, Halsey DeWolf, Harvey B. Sanborn, Guy W. Wells, William P. Davis, Frank B. Littlefield, Edward A. McLaughlin.

The forenoons will be filled with operative and dry clinics and clinical demonstrations at the Peters House. Every department of the hospital will participate in these demonstrations, showing medical advancements for the five year period. There will be a five year study of gall-bladder cases, demonstration of a vascular boot originated in the hospital, motion pictures in color illustrating a new method of cystotomy, a demonstration from the gynecological research department, improvements in orthopedics and fracture treatment, and a demonstration of neurological methods by former interns who are now members of the staff of Butler Hospital. There will be a fracture clinic, a thoracic clinic, a tumor clinic, a demonstration of cardiology, and a clinical-pathologic conference.

Friday afternoon the program will consist of papers given by visiting former interns. Dr. Reeve H. Betts of Boston will speak on "Some Aspects of Non-tuberculous Thoracic Therapy" and show motion pictures in color of various thoracic operations. Dr. Nat H. Copenhauer of Bristol, Tenn. will read on "Peaks and Pioneers in the History of the Thyroid." Prof. Arthur H. Morse of the Yale School of Medicine will read a paper on "Pathology and Treatment of Ante-partum Hemorrhage" illustrated with lantern slides. Dr. John P. Macnie of New York City will present an ophthalmological subject. Dr. Harold G. Tobey of Boston will speak on "Allergy." Prof. James E. Paulin of Atlanta, Ga. will speak on "Cardiovascular Syphilis." This meeting will be held at the Aldrich House Auditorium.

Saturday afternoon, a Rhode Island clambake will be served at the Squantum Club.

SCHEDULE FOR AUGUST, 1938

MONDAYS:

Surgical Grand Rounds 10:00 A. M.
I Surg. Grand Rounds August 1, 15, 29
II Surg. Grand Rounds August 8, 22
Thoracic Clinic 4:30 P. M.

TUESDAYS:

Gastro-Intestinal Clinic 9:30 A. M.
Surgical Grand Rounds 10:00 A. M.
II Surg. Grand Rounds August 9, 23
I Surg. Grand Rounds August 2, 16, 30

WEDNESDAYS:

Tumor Clinic 10:00 A. M.

THURSDAYS:

Orthopedic Grand Rounds 9:00 A. M.
Thoracic Clinic 11:30 A. M.

FRIDAYS:

Fracture Grand Rounds 11:00 A. M.
Pediatric Grand Rounds August 5, 19
G. U. Staff Meeting 7:30 P. M., August 5
Surg. Staff Meeting 8:30 P. M., August 5

SATURDAYS:

Neurological Grand Rounds 9:00 A. M.
Medical Conferences 10:00 A. M.

BOOK REVIEW

MEN PAST FORTY. By A. F. Niemoeller, A.B., M.A., B.S.
pp. 154, Cloth, \$2. — Harvest House, New York, 1938.

MEN PAST FORTY is a book by a non-medical man and written for the layman. It treats of impotence and rejuvenation. It is readably presented, quite exhaustive in scope, and incorporates up-to-date mendicaments, methods, and concepts. A. F. Niemoeller, A.B., B.S., M.A., is no neophyte however; he is the author of the American Encyclopedia of Sex. A well known urologist, Winfield Scott Pugh, endorses the volume in an enthusiastic "Foreword."

Although written by a non-medical man, the book for the general practitioner is an admirable review of the subject. It brings to his hand an adequate, fair, and quite complete discussion of the problem. It does much to make more concrete a method of approach to a successful treatment of a condition only too prevalent and in general altogether too nebulous in the minds of the general practitioners — that army of medical men who will always constitute the court of first appeal in these cases.

This volume of 150 easily read pages discusses and evaluates the following in modes of therapy: electrical apparatus, diets, external applications, pep pills, baths, vacuum pumps, aphrodisiacs, vitamin E tablets, mechanical devices, massage, drugs and glandular extracts. It gives the indications for use, dosage, and the names of manufacturers, both here and abroad, of quite a number of the most acceptable preparations of glandular extracts and aphrodisiacs. In addition it contains chapters which deal with premature ejaculation, sexual control, psychiatric treatment of impotence, and surgical rejuvenation.

All thruout it warns against the "quack," emphasizes the dangers of self-meditation, discourages the latter, and warmly advocates the necessity of qualified medical supervision and care.

JOHN S. DZIOB, M.D.



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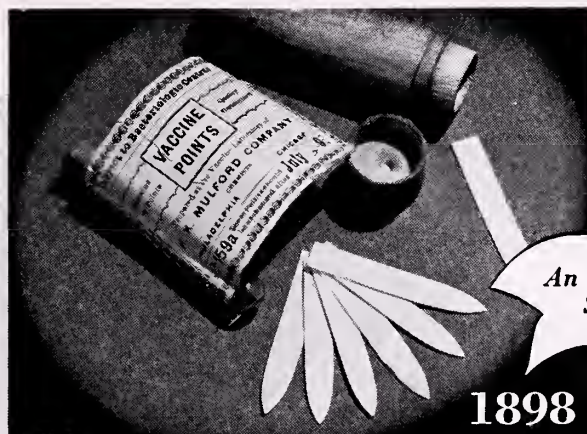
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RECENT ADVANCES IN THE SCIENCE OF NUTRITION

I. THE ROLE OF RIBOFLAVIN IN HUMAN NUTRITION

● In 1933, a series of articles on the vitamins was published, each article written by an authority in the field of nutrition. These papers served to summarize existing knowledge concerning these essential factors. During 1933 a similar series of articles has been issued. Comparison of related papers in these two series will indicate the most important advances in the science of nutrition which have been made in the course of the past five or six years.

In the first series of articles mentioned above, only two of the better known members of the old vitamin B complex received extended discussion (1). The more recent series, however, is characterized by the inclusion of a number of papers on riboflavin which, since 1932, has assumed a new significance in human nutrition (2). As compared with other factors with which it is often associated in nature, the rise of riboflavin to importance in human nutrition is somewhat anomalous.

For example, the effects upon humans of severe dietary deprivation of vitamin B₁ and the P-P factor are well known, in fact, such effects in themselves afford proof of the indispensable nature of these factors. While riboflavin is apparently concerned in cellular oxidation processes of mammals, the specific effect on humans of riboflavin deficiency is not known. Nevertheless, from the weight of evidence accumulated during the last five years, riboflavin is generally accepted as important in human nutrition. Authoritative opinion concerning riboflavin has been succinctly expressed as follows:

"The fact that we do not know any specific human disease due to shortage of riboflavin is entirely compatible with the view that this substance is important in human nutrition. A detailed discussion of reasons for believing that riboflavin plays a role in the life process of the human as

of other species would probably seem superfluous to a majority of readers at this date, and to a still larger majority in the future. Suffice it to point out that our species has evolved in the direction not of shortening the list of things it needs but of lengthening the list of things it can use to advantage." (2c)

Chemically, riboflavin is described as 6, 7 dimethyl-9 (d-l' ribityl) iso-alloxazine; a yellow-green, heat-stable pigment enjoying wide distribution in the plant and animal kingdoms. Many foods, therefore, of both plant and animal origin supply valuable amounts of this essential factor, specifically, fruits, vegetables, particularly the leafy pigmented types, and animal products such as milk and dairy products, meats, liver, and fish. It may, perhaps, be too early to estimate the daily human requirement for riboflavin. However, one rather liberal recommendation lists 600 units* as required daily by older children and adults; the estimated riboflavin requirement for younger children is somewhat less (2c).

In view of the above facts, attainment of an adequate intake of riboflavin would appear to be best insured by a varied dietary regime which includes the so-called "protective" foods. In the formulation of such diets, commercially canned foods may be particularly valuable. The older "vitamin G" assays—which are now known to measure principally the riboflavin contents of foods—indicate that modern canning procedures are without significant effect upon riboflavin. In addition, many foods valued for their contribution of this factor are canned commercially and hence are conveniently available at all seasons on practically every American market. Therefore commercially canned foods may be freely used in arranging such protective diets and they should materially assist in providing an adequate supply of this newly recognized dietary essential, riboflavin.

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1. 1932. J. Amer. Med. Assn. 98, 2201 and 2283
1932. Ibid. 99, 26 and 121.

2a. 1938. J. Amer. Med. Assn. 110, 1105.

b. 1938. Ibid. 110, 1188.
c. 1938. Ibid. 110, 1278.

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Are the Neuritic Symptoms of Pregnancy *due to a deficiency* *of vitamins B₁ and G?*

SUCH common neuritic symptoms of pregnancy as pains in arms and legs, muscle weakness, and (less frequent but more serious) paralysis of the extremities may result from a shortage of antineuritic vitamins, recent investigations appear to show. Although neuronitis of pregnancy has long been considered a toxemia, no toxins have ever been identified.

Clinical observations of Strauss and McDonald lead to the conclusion that the condition is a dietary deficiency disorder similar to beriberi, caused by lack of vitamin B₁, complicated by symptoms which may be traced to shortage of vitamin G. They report recovery in their cases receiving this therapy, including dried brewers' yeast.

Hyperemesis as Cause of Avitaminosis

Wechsler observes that all cases of polyneuritis of pregnancy recorded in the literature were preceded by long periods of severe vomiting. "It would seem," he adds, "that because of actual starvation these patients suffered from avitaminosis and consequent neuritis," a view likewise held by Hirst, Luikart, and Gustafson. Plass and Mengert observe that the practice of giving high carbohydrate feedings for hyperemesis gravidarum is still more likely to cause avitaminoses B and G.

Dried brewers' yeast, as it is far richer than any other food in vitamins B₁ and G, is being used with benefit both in the prevention and treatment of polyneuritic symptoms of pregnancy. Lewy found that additions of yeast to the diet reduced electric irritability of the peripheral nerves and brought clinical improvement. Vorhaus states that he and his associates, after administering large amounts of vitamin B₁ to 250 patients having various types of neuritis, including that of pregnancy, observed in about 90% of cases "varying degrees of improvement, i.e., from partial relief of pain to complete disappearance of all symptoms."

Need for Vitamins B and G in Lactation

Evans and Burr, Hartwell, Sure and co-workers, and Macy *et al* are among numerous authorities who find that the nursing mother also needs supplements of vitamins B₁ and G, from 3 to 5 times the normal requirement. Tarr and McNeile report that the physical, mental, and emotional status of 120 pregnant and lactating women receiving Mead's Brewers Yeast and other foods high in vitamin B was superior to that of a control group of 116 women.



Since the management of polyneuritis of pregnancy is difficult at best, it would appear logical to supply those dietary substances which may safeguard against it. One of the richest and most convenient sources of the anti-neuritic factors, vitamins B₁ and G, is Mead's Brewers Yeast Tablets. Consisting of nonviable yeast, they offer not less than 25 International vitamin B₁ units and 42 Sherman vitamin G units per gram.

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ULCER OF THE STOMACH AND DUODENUM CANCER OF THE STOMACH

RICHARD H. MILLER, M.D., F.A.C.S.
264 BEACON STREET, BOSTON, MASSACHUSETTS

The theories which are today advanced to account for the causation of peptic ulcer increase constantly in number and the different factors, emphasized by different investigators, present a bewildering array of divergent thoughts. It is difficult to distil from the whole mixture a satisfactory explanatory product for the reason that so many various things are involved. Dietary irregularities, deficiency of vitamins,⁵¹ infection, local tissue susceptibility, central nervous system lesions,^{23, 58} and other abnormalities, may all play a part.^{37, 38} The recent use of the flexible gastroscope has made us more conscious of the frequent occurrence of chronic gastritis, thought by many to be at times the precursor of ulcer, and perhaps of cancer of the stomach.

The first outstanding theory and the most reasonable one, is that ulcer may be initiated by the failure of the normal neutralization of the acid gastric juice by the highly alkaline duodenal contents which are ordinarily allowed to flow back through the pylorus into the stomach. This is due to failure of relaxation of the pyloric sphincter, achalasia, which in turn may be caused by reflex nerve impulses upsetting the sympathetic and parasympathetic control of the pyloric muscle. It is thought that irritative processes anywhere in the abdomen, as, for instance, the gallbladder and appendix, may contribute to this condition.

Secondly, it is universally accepted that there is a definite class of high-strung, nervous people, who have an ulcer diathesis or individual tendency to the disease; this diathesis may even have a definite familial trend.²⁰

Thirdly, there is the belief that there occur certain local areas of decreased resistance,²⁰ but as to the real cause of these we are ignorant. Certainly it is true that most gastric ulcers are on the lesser

curvature where the food is rubbed along by the peristaltic waves. Practically all duodenal ulcers are within an inch of the pylorus where the acid gastric contents are forcibly squirted against the duodenal mucous membrane.

Accepting for the moment the fact that the question of etiology is not satisfactorily solved, I pass on to the consideration of ulcer of the stomach. This leads me to my first precept:

Never speak loosely of peptic ulcer, but always qualify the expression by saying duodenal or gastric ulcer, because a gastric ulcer may be a cancer, while a duodenal ulcer never is.

Gastric ulcer occurs usually on the posterior wall along the lesser curvature; and ulcer on the greater curvature is always cancer. An ulcer within one inch of the pylorus is cancer nine times out of ten.²⁷ It is fitting here to insert precept number two:—

Ulcer, if it is ulcer, whether gastric or duodenal, is, at the outset, a medical disease.

The one most important and never-to-be-forgotten point, however, in the diagnosis and treatment of gastric ulcer, is the decision as to whether or not it is cancer. An early cancer may be an ulcerative lesion, indistinguishable by any clinical test from benign ulcer.^{11, 40, 47, 49, 50} Not many years ago we were taught that most cancers developed on pre-existing ulcers, and thus an ulcer could be considered as a pre-cancerous lesion. This dictum did not long go unchallenged and has been greatly modified. A recent article on this subject demonstrated that 3.75% of the ulcer cases became malignant and 13% of definite cancers revealed evidence of previous benign ulceration.⁴² Segal and Scott have reported 101 cases of gastric ulcer; in this series seven which were considered benign turned out to be malignant and eleven which were thought to be malignant turned out to be benign. Hinton says, "once an ulcer, always an ulcer," but he adds that in 7% or 8% of the cases one cannot tell

Read before the Providence Medical Association, at the meeting of November 1, 1937.

whether one is dealing with a true benign ulcer or an ulcerating carcinoma.²⁶ Scott presented ten other cases in which differentiation between gastric ulcer and cancer was impossible. He notes that, in 100 cases of gastro-enterostomy done by Balfour for benign gastric ulcer, six later died of cancer.⁴⁹ The early symptoms of cancer may be no more than loss of appetite, sometimes with easy fatigability, pallor and weakness.⁵⁹

The most recent valuable addition to our diagnostic instruments is the gastroscope, a very expensive apparatus which requires expert skill to use.^{6, 7, 8, 43, 48} Suspicion on the part of the attending physician is the first important step in diagnosing cancer of the stomach; the suspicion should be doubled if the ulcer is a large one.

Given a case of stubborn or newly occurring gastric indigestion in a person of middle or greater age, investigate the stomach with all available diagnostic material.^{14, 16, 17, 29} If a diagnosis of benign ulcer is made, put the patient on a careful regime and in three weeks repeat the x-rays. If the lesion is larger, explore at once; if in doubt, explore at once; if the lesion is smaller, one may carry on the medical treatment, but watch carefully. If the patient is a laboring man who cannot carry out an adequate dietary regime, operation is preferable to a "laissez-faire" policy. To sum this up, I am led to precept number three. *"In every case of gastric ulcer, think of cancer, and, if you are in the slightest doubt, insist on operation."*²⁴

I will digress here a moment to discuss the prognosis after adequate treatment, medical or surgical, of gastric ulcer and cancer. A gastric ulcer, once healed, requires less medication and is less liable to recurrence than a duodenal ulcer.^{25, 32} In cancer the life expectancy after operation can be best predicated on the degree of malignancy as estimated by Broder's method; of Grades I and II, 55-63% will live five years or more. Of Grades III and IV, only 20% will live five years.⁴ Better surgical results in cancer of the stomach will come not from improvement or extension of the operative technique but from earlier diagnosis by the attending physician. The solution of the problem depends on those of you gentlemen who are doing general medical practice.

Duodenal Ulcer

In considering duodenal ulcer I pass at once to the question of treatment and reiterate that this ulcer is, except in complicated cases, purely a

medical disease, to be treated conservatively. This is particularly true in young patients who hardly ever do well with surgical operation. In a recent careful review Sandweiss⁴⁶ concludes that histidine (Larostidine), Synodal (emetine), and vaccines are of no special value. Larostidine has been particularly advocated but there is no sound evidence to prove that it has any great merit; Barry and Florey,⁵ experimenting on animals, say it has no effect in either preventing or curing ulcers. Another writer, Bulmer^{9, 10} from England, reports that it should be used merely as an adjunct to dietary treatment. Upham and Barowsky⁵⁴ ran a series of cases with histidine and a parallel control series in which sterile water was injected. The latter did just as well as the former. Every case must be treated individually—no set rules can be laid down. The use of insulin, as advocated by Sperber⁵² of Providence, has given him good results, but I have not tried it nor seen other reports as to its use. Mucin, obtained from hogs' stomachs and given by mouth to form a protective coating over the stomach wall, has certainly given some good results. Nothing has, to my knowledge, proved better than a careful dietary regime according to a strict or modified Sippy method.

Operation should be reserved for cases with intractable symptoms of long duration, pyloric obstruction, hemorrhage or perforation. Furthermore, patients with high gastric acidity do not do so well with operation because of the tendency of the acid to cause subsequent ulcer formation.^{3, 13, 56, 57}

The type of operation is also a matter of great importance. A few years ago we believed that in any uncomplicated duodenal ulcer a posterior gastro-enterostomy was the best procedure; today we know that in many cases it fails, either because the symptoms are for some unexplainable reason not relieved, or because a second ulcer, jejunal, gastro-jejunal, or a gastro-jejuno—colic fistula, may result. The figures as to the frequency of this secondary ulcer vary with different authors from 2% to 48%.^{33, 60} For duodenal ulcer with pyloric obstruction, however, especially with low acid, simple gastro-enterostomy may be done. The opinion of the most experienced surgeons in this country is swinging around to the belief that we should do fewer surgical operations for duodenal ulcer, and when we do do them, they should be more radical. I must mention here, however, that for this ulcer, with or without obstruction, the simpler pyloro-

plasty (Judd), with or without excision of the ulcer, is gaining many adherents. I have used it with excellent results. This leads me to Precept No. 4: *"Do not operate on duodenal ulcers until you are forced to do so."*

To ensure a good result after an operation for any ulcer, one must insist that the patient continue for a long time, if not forever, on a rather careful diet. As to smoking before or after operation, men vary in their opinions, but I feel convinced that the likelihood of cure is greater if smoking is given up. I cannot produce figures to prove this, but if smoking has a harmful effect in thrombangitis-obliterans, as we know it does, it is reasonable to suppose that it may have some deleterious action on the terminal vessels in the stomach and duodenum.

Jejunal Ulcer After Gastro-enterostomy

One can lay down no set rules for the handling of a jejunal ulcer. Medical treatment should be given a fair trial, and if this fails, as it usually does, surgery becomes unavoidable. The gastro-enterostomy should be taken down and then the subsequent procedure will depend on the individual case; it is safe to say that in most instances a gastro-duodenostomy, as for instance, the Judd method, is the operation of choice.^{18, 33, 36, 60}

*Perforation*⁵³

Almost all acute perforations are in the duodenum or at the pylorus. Gastric ulcers, usually located on the posterior wall near the lesser curvature, are characterized by a slow penetration into the posterior retroperitoneal structures, without the sudden onset so characteristic of an anterior perforation and sudden flooding of the peritoneal cavity with stomach and duodenal contents. These sudden outpourings from an ulcer of the duodenum result in a drifting of the fluid down the right side, or gutter, of the abdominal cavity, with puddling around the caecum. If the leak is slow the symptoms and signs may at first be referred to the appendix and a wrong diagnosis made. Besides the diagnostic value of discovering a decrease in the area of liver dullness, an x-ray will frequently show gas between the liver and the diaphragm. This finding is pathognomonic.

The one controversial question which has to be discussed is "How much shall one do at the operation?" Recommendations vary all the way from simple closure of the perforation to radical gastric resection.³⁵ An excellent recent article by Graham²²

of Toronto advocates simply closing the hole by suturing some omentum into it; on the other hand, following simple closure, recurrence of symptoms is claimed by Sallick,⁴⁵ in between 64% and 71%; other authors give lower figures. Lewisohn reports persistence of symptoms in many cases but reserves his more extensive operations for a later date. From Europe has come the advocacy of extensive resection³⁴; this had not been generally accepted in this country. Certainly, in the cases I have seen, I would not feel like subjecting the patients to it; after all, one should not shoot off all of one's ammunition the first time. I would, however, in a case operated on within six hours, consider gastro-enterostomy if I were convinced that there was going to be a considerable degree of obstruction at the pylorus. In any event, the surgeon must do only what he feels competent to do quickly and dexterously. The more radical procedures must be left to those with more self-confidence and more experience than most of us have. This brings me to:

Precept No. 5: *Operate on a perforated ulcer as soon as possible, and be conservative.*

Hemorrhage

As one author says, there are three difficulties in reaching the correct decision as to what is proper to do with a bleeding ulcer—1, the worry because one cannot predict whether the bleeding will or will not stop; 2, the desire to operate for persistent bleeding, even when operation may be dangerous; and 3, the question whether the bleeding really comes from an ulcer at all—it may be from an oesophageal varix or a diffuse gastritis. Reschke has recently compiled some statistics to the effect that in cases with moderate hemorrhage the mortality is 9.5%, but in severe hemorrhage it is 17-27%. Balfour² says that the worst cases are those which bleed severely while in the hospital being treated for ulcer, and thinks these are the only ones in which the indications for operation are clear-cut and imperative. Meulengracht advocates immediate feeding, with careful diet, in presence of hemorrhage, and in 300 cases claims a mortality of only 1%. There are certain sound reasons for this. It seems worth while trying. I have as yet had no experience with it.

Our method of handling acute hemorrhage is as follows:—Put the patient to bed, give nothing by mouth for 12-24 hours, nothing parenterally; and morphine by the clock. Begin fluids by vein or hypodermoclysis cautiously. Transfuse only if the pa-

tient's condition becomes alarming. Then wait and continue as above. If there is more bleeding, give one more transfusion. If the bleeding persists, go ahead with operation, having donors on hand for at least two more transfusions. At operation the bleeding point must be exposed and ligated, if necessary by opening the stomach or duodenum.^{61, 62, 63}

I now reach the last Precept, No. 6. *Do not operate on a bleeding ulcer until you think the patient is going to die if you do not operate.*

Conclusion

Balfour has written a book of 913 pages on this subject, mostly on ulcer and cancer of stomach, and ulcer of the duodenum, and I have tried to cover it in 20 minutes. The evening will prove to have been worth while if you carry away one thought, and that is this:—

"Never forget that an ulcer of the stomach may be cancer."

BIBLIOGRAPHY

1. Althansen, T. L.: The False Acute Abdomen, *Ann. Surg.*, 106:62, July, 1937.
2. Balfour, D. C.: Gastro-intestinal Hemorrhage, *S. G. & O.*, Editorial, 65: 551, October, 1937
3. Balfour, D. C.: Factors Governing the Results of Surgical Treatment of Duodenal Ulcer, *Ann. Surg.*, 102: 581, 1935.
4. Balfour, Donald C.: Factors of Significance in the Prognosis of Cancer of the Stomach, *Ann. Surg.*, 105:733, May, 1937.
5. Barry, H. C., & Florey, H. W.: The Histidine Treatment of Peptic Ulcer, *Lancet*, 2:728, September 26, 1936.
6. Benedict, E. B.: Gastroscopic Observations in Neoplasm, *N. E. J. Med.*, 214:563, March 19, 1936.
7. Benedict, E. B.: Chronic Gastritis, a Clinical Discussion Based on Gastroscopic Examination, *N. E. J. Med.*, 212:468, March 14, 1935.
8. Benedict, E. B.: Examination of the Stomach by Means of a Flexible Gastroscope, A preliminary Report, *N. E. J. Med.*, 210:669, March 29, 1934.
9. Bulmer, E.: Histidine Treatment of Peptic Ulcer: A Study of 126 Cases with Immediate and Later Results, *Lancet*, 231:734, 1936.
10. Bulmer, E.: The Results of Histidine Treatment of Peptic Ulcer, *Lancet*, 2:734, September 26, 1936.
11. Cole, L. G.: The Pathological Yard-stick: Its Accuracy as an Instrument for Measuring Errors in Clinical, Roentgenological, and Surgical Diagnosis of Gastric Lesions, *S. G. & O.*, 63:689, December, 1936.
12. Cunningham: Partial and Sub-total Gastric Exclusion, *Ann. Surg.*, XCiii:6, 1167, June, 1931.
13. Dragsted, L. R.: Some Physiological Principles Involved in the Surgical Treatment of Gastric and Duodenal Ulcer, *Ann. Surg.*, 102:563, 1935.
14. Dublin, L. I.: The Incidence of Gastric Cancer, *Am. J. Surg.*, 31:197, 1936.
15. Editorial, The Control of Peptic Ulcer, *J. A. M. A.*, 104:1522, April 27, 1935.
16. Ensternman, G. B.: Diagnostic Aspects of Roentgenologically Negative Gastric Disorders, *J. A. M. A.*, 107: 1432, October 31, 1936.
17. Ewing, J.: The Beginnings of Gastric Cancer, *Am. J. Surg.*, 31:204, 1936.
18. Fauley, G. B., & Ivy, A. C.: The Prevention of Post-operative Jejunal Ulcers by Diet and Fundusectomy, *S. G. & O.*, 63:717, December, 1936.
19. Friedemann, M.: Ueber den Gesundheitszustand von 360 Personen 10-17 Jahre nach der Rodikaloperation wegen Magengeschwurskrankheit, *Zentralbl. f. Chir.*, 1456, 1935.
20. Gage, M., Ochsner, A., and Hosoi, K.: The Relationship of Gastric Acidity to Peptic Ulceration I. The Effect of Hydrochloric Acid, of Histamin, and of Deviation of Bile, *Arch. Surg.*, 32:1019, 1936.
21. Glenn, F.: Gastro-enterostomy, *S. G. & O.*, 63:751, December, 1936.
22. Graham, R.: The Treatment of Perforated Duodenal Ulcers, *S. G. & O.*, 64:235, February 1, 1937.
23. Grant, F. C.: Brain Lesions & Duodenal Ulcer, *Ann Surg.*, 101:156, January, 1935.
24. Harris, S.: The Early Symptomatology and Diagnosis of Gastric Cancer, *Am. J. Surg.*, 31:225, 1936.
25. Hinton: The Evaluation of Results in 324 Gastric and Duodenal Ulcers, *Ann. Surg.*, XCiv: 6, 1044, December, 1931.
26. Hinton, J. W.: The Transformation of Gastric Ulcer into Gastric Carcinoma, *S. G. & O.*, 64:16, January, 1937.
27. Holmes, G. W., & Hampton, A. O.: The Incidence of Carcinoma in Certain Chronic Ulcerating Lesions of the Stomach, *J. A. M. A.*, 99:905, September 10, 1932.
28. Howes, E. F., Flood, C. A., & Mullins, C. R.: The Influence of Pepsin and Hydrochloric Acid on the Healing of Gastric Defects, *S. G. & O.*, 62:149, February 1, 1936.
29. Hunt, V. C.: Operability of Carcinoma of the Stomach, *Ann. Surg.*, 101:1200, May, 1935.
30. Johnston, C. G., and Ravdin, I. S.: Action of Glucose on Emptying of Stomach
31. Jones, C. M., Benedict, E. B., and Hampton, A. O.: Variations in the Gastric Mucosa in Pernicious Anaemia: Gastroscopic, Surgical, and Roentgenographic Observations, *Am. J. Med. Sc.*, 190:596, November, 1935.
32. Jordan, S. M.: A Review of the Gastric Ulcer Problem, *J. A. M. A.*, 107:1451, October 31, 1936.
33. Judd, E. S. & Hoerner, M. T.: Jejunal Ulcer, *Ann. Surg.*, 102:1003, December, 1935.
34. Judin, S. S. (Moscow): Partial Gastrectomy in Acute Perforated Peptic Ulcer, *S. G. & O.*, 64:63, January, 1937.
35. Lemberg, D. A.: Perforating Gastroduodenal Ulcers, *Novyy Khirurgicheskiy Arkhiv, Dnepropetrovsk*, 37:191, 1936.
36. Lewisohn, R.: Persistence of Duodenal Ulcers after Suture of an Acute Perforation, *S. G. & O.*, 64:172, February 1, 1937.
37. McCann, J. C.: Experimental Peptic Ulcer, *Arch. Surg.*, 19:600, 1929.
38. Meyer, A.: Gastritis and Genesis of Gastric Ulcer: Infection of Upper Intestinal Tract by Yeasts, *Ztschr. f. Klin. Med.*, Berlin, 123:125, January 17, 1933.
39. Miller, G.: Sub-total Gastric Resection for Peptic Ulcer, *S. G. & O.*, 65:489, October, 1937.
40. Minnes, J. F. & Geschikter, C. F.: Some Clinical Features of Cancer of the Stomach, *Am. J. Cancer*, 27:740, 1936.
41. Newburger, B.: Gastric Operations for Benign and Malignant Conditions, *Ann. Surg.*, 106:200, August, 1937.
42. Newcomb, W. D.: The Relationship between Peptic Ulceration and Gastric Carcinoma, *Brit. J. Surg.*, 20: 279, October, 1932.
43. Pratt, G. H.: The Diagnosis of Cancer of the Stomach. The Use of the Gastroscope and the Gruskin Test, *Arch. Surg.*, 33:138, 1936.
44. Rigler, L. G., and Ericksen, L. G.: Benign Tumors of the Stomach: Observations on their Incidence and Malignant Degeneration.
45. Sallick, M. A.: Late Results in Acute Perforated Peptic Ulcer treated by Simple Closure, *Ann. Surg.*, 104: 853, 1936.
46. Sandweiss, D. J.: Dietetic, Parenteral and Surgical Treatment in Peptic Ulcer, *J. A. M. A.*, 108:700, February 27, 1937.
47. Sauer, P. K.: Carcinoma Following Gastric and Duodenal Ulcer, *Annals Surg.*, 102:995, December, 1935.

48. Schindler, R., Ortmyer, M., and Renshaw, J. F.: Chronic Gastritis, J. A. M. A., 108:465, February 6, 1937.
49. Scott, W. J. M.: The Possibility of Malignancy as it Affects the Treatment of Chronic Gastric Ulcer, Ann. Surg., 102:586, 1935.
50. Segal, H. L., and Scott, W. J. M.: Changes and Results of a Decade in the Management of Gastric Ulcer, Rev. Gastroenterol., 4:101, 1937.
51. Somervell, F. H., & Orr, I. M.: Some Contributions to the Causation, Pathology & Treatment of Duodenal Ulcer and its Complications, Brit. J. Surg., 24:227, 1936.
52. Sperber, P.: Insulin Therapy for Duodenal and Peptic Ulcer, Rev. of Gastro-enterology, 2:291, December, 1936.
53. Thompson, H. L.: Acute Perforation of Peptic Ulcer, S. G. & O., 64:863, May, 1937.
54. Upham, R., and Barowsky, H.: Histidine Therapy in Cases of Peptic Ulcer, J. A. M. A., 109:422, August 7, 1937.
55. Volini, I. F., Widenhorn, H. L., and Finlayson, B.: Experimental Duodenal Ulcer, S. G. & O., 65:159, August, 1937.
56. von Haberer: Betrachtungen uber unserer Misserfolge wegen Bagen-und Duodenal-geschwuren, Zentrbl. f. Chir., 2309, 1930. (Ab. S. G. & O., 341: April, 1931)
57. Walters, W.: The Choice of Surgical Procedures for Duodenal Ulcer, Ann. Surg., XCvi:258, August, 1932.
58. Watts, J. W., and Fulton, J. F.: The Effect of Lesions of the Hypothalamus upon the Gastro-intestinal Tract and Heart in Monkeys, Ann. Surg., 101:363, January, 1935.
59. Wilbur, D. L.: Symptoms & Signs which may Make Possible Earlier Recognition of Cancer of the Stomach, Minn. Med., 19:728, September, 1936.
60. Wilkie, D. P. D.: Jejunal Ulcer, Ann. Surg., 99:401, March, 1934.
61. Allen, A. W.: Bleeding Duodenal Ulcer, N.E.J. Med., 208:237, 1933.
62. Allen, A. W.: Acute Massive Haemorrhage from Upper Gastro-intestinal Tract, Surgery, 2, 713, 1937.
63. Allen, A. W., & Benedict, E. B.: Acute Massive Haemorrhage from Duodenal Ulcer, Ann. Surg., 98, 736, 1933.

THE CHEMISTRY AND MODE OF ACTION OF SULFANILAMIDE AND RELATED COMPOUNDS

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The contributions of Ehrlich to the chemotherapy of syphilis had led to the hope that bacterial infections in general would prove amenable to this type of treatment, but, with a few exceptions, the record until 1935 was one of discouraging failure. It was in that year that Domagk¹ published the results of his work on the action of a group of azo dyes on experimental streptococcal infections in mice, and started medical science on a series of researches which have done more to advance the chemotherapy of infectious diseases than had been accomplished in all the preceding years.

Domagk's most important contribution was the observation that compounds of relatively low bactericidal effect, or none at all, in vitro, may prove

very effective in the animal body. He was particularly successful in overcoming hemolytic streptococcal infections in mice by the administration of the hydrochloride of sulfamidochrysoidine, or 2:4-diaminoazobenzene-4'-sulfonamide (Figure 1) later known by the proprietary names of Streptozon and Prontosil. Even before he published his results, the therapeutic action appeared so promising that several physicians had tried this compound on some of their patients, and their favorable reports appeared in the literature before that of Domagk.

Prontosil therapy was handicapped by the low solubility of the free base and the acid reaction of the more soluble hydrochloride, both of which interfered with its parenteral use. Prontosil Soluble was developed later, and is the one now available in 2.5 percent solution. The publication of Domagk's results naturally brought other investigators into the field. Tréfouël, Tréfouël, Nitti and Bovet² found that most of the effective dyes contained benzenesulfonamide attached to one of the nitrogens of the diazo group. They suggested that the animal was probably able to break the dye molecule at the diazo linkage to produce the para-amino derivative of benzenesulfonamide, which is the amide of sulfanilic acid, or sulfanilamide; and they were able to show that this compound had an action similar to that of Prontosil in protecting mice. Their results were soon confirmed by Buttle³ and his associates, who also demonstrated the lower toxicity of sulfanilamide, as well as its value in meningococcal infections in mice. It was found capable of protecting mice infected with 10,000 fatal doses of streptococci, and the protective action against meningococci was shown to be of a high order. Figure 1 shows the structural relationships of Prontosil, Prontosil Soluble and sulfanilamide.

The drug was introduced into this country as Prontylin, and is now obtainable under this and other names from several reliable American manufacturers. Among the other names found in the literature are para-aminobenzenesulfonamide, para-aminophenylsulfonamide, and sulfanilamide.

Distribution and Determination. With any of the commonly used methods of administration, sulfanilamide soon reaches all parts of the body, its distribution being governed chiefly by the water content of the tissues and fluids. Part of it is converted to para-acetylaminobenzenesulfonamide, and both are found in the urine. Inasmuch as the rate of excretion is variable, it is advisable to check the suitability of the dosage by quantitative determina-

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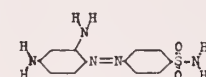
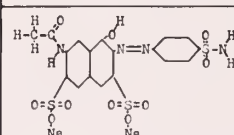
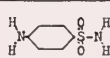
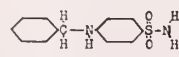
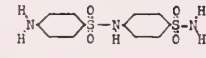
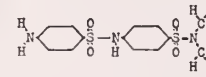
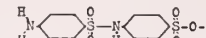
	4-sulfamido-2',4'-diamino-azobenzene. Sulfamido-chrysoidine. "Streptozon," "Prontosil."
	Disodium salt of 4'-sulfamido-2-azo-7-acetylamino-1-hydroxy-naphthalene-3:6-disulfonic acid. "Prontosil Solubla."
	Sulfanilamide. "Prontylin."
	p-Benzylaminobenzenesulfonamide. "Septezine."
	Disulfanilamide. "Disseptel C"
	"Uleron" "Disseptel, A."
	Sodium sulfenylsulfanilate.

FIGURE 1

tions of the concentration in the blood, especially in patients who do not show the customary response, or who react unfavorably. Several methods suitable for such determination have been described in the literature.

Our experience has been limited to the methods of Marshall⁴ and Schmidt.⁵ Schmidt's is the simpler of the two, and has several advantages. It requires fewer and less expensive reagents, lessens the working time, and permits determinations on the regular tungstic acid blood filtrates.

Mode of Action. The mode of action of this group of compounds has been the subject of repeated investigations. The observation that Prontosil was active only after being introduced into the animal was one of the reasons leading to the conclusion that it was not effective per se, but was probably modified in the body to produce the real therapeutic agent. It was shown that reduction in vitro would break the molecule at the diazo bond and that one of the reduction products, sulfanilamide, was as effective as Prontosil in streptococcal infections. Colebrook, Buttle and O'Meara⁶ found that sulfanilamide in culture media and in blood was definitely bacteriostatic, and bactericidal if the number of organisms was small. They also showed that the blood from persons who had taken either Prontosil or sulfanilamide was detrimental to the growth of hemolytic streptococci.

Those organisms that are resistant to the bacteriostatic action of sulfanilamide in vitro are usually equally resistant to its effect in vivo. This is well shown in a paper by Bliss and Long,⁷ discussing the failure of sulfanilamide therapy in four cases of pyelitis and cystitis. The beta-hemolytic streptococci isolated from these patients were found to be in Group D of the Lancefield classification, and suffered no inhibition of growth in broth containing 1-10,000 sulfanilamide. Several Group A strains, on the other hand, were so susceptible to the action of the drug that the 18-hour cultures in 1-10,000 sulfanilamide developed only 1/100,000 as many organisms as did the controls. It is with beta-hemolytic streptococci of this group that most of the successful experimental and clinical work has been done.

Another paper⁸ by the same authors deals with the treatment of experimental *Clostridium welchii* infections in mice. The first peritoneal smears from both treated animals and controls contained leucocytes loaded with organisms, and many free bacteria. Subsequent smears showed the same degree of phagocytosis, but fewer free bacteria in the treated mice and progressively increasing numbers in the controls. Six hours and fifteen minutes after infection all the control mice were dead while the treated animals were well on the way to recovery, and in twenty-four hours free bacteria were no longer present in the exudates. In a similar series of experiments using hemolytic streptococci, phagocytosis was greatly increased by treatment. Osgood and Brownlee⁹ point out that in the presence of sulfanilamide streptococci are less liable to cause hemolysis of red cells, and conclude that "The major action of sulfanilamide on the beta-hemolytic streptococci seems to be the neutralization of toxin." Their experimental results do not, however, exclude the possibility that the drug inhibits toxin production.

Our attempts to understand the action of sulfanilamide are handicapped by the lack of agreement of the reports in the literature, but this confusion is not surprising if we bear in mind the fact that the effects of sulfanilamide vary qualitatively and quantitatively with species, type, and even the strain of organisms used. The effect on the host is also subject to species variation and individual idiosyncrasy. At present it seems safe to say that the more recent work has not furnished adequate reasons for discarding the earlier hypothesis that the most impor-

tant factor in this type of therapy is the directly damaging action on the bacteria. As a result, they increase less rapidly, become more susceptible to phagocytosis and less capable of producing toxin. The natural defense mechanisms of the host are then able to destroy the organisms faster than they are produced.

A year ago there was a growing impression that sulfanilamide was practically the last word in this type of therapy and that the more complex compounds could be discarded. We are not so sure of that now. There is evidence that in some infections the more complex compounds may be better. Rosenthal, Wooley and Bauer¹⁰ found that two-thirds the maximum tolerated dose of Prontosil would save 60 percent of mice infected with one fatal dose of the virus of lymphocytic choriomeningitis, and 30 percent of those receiving five fatal doses. No appreciable effects were obtained with sulfanilamide, Prontosil Soluble, di-sulfanilamide or Chrysoidine-R. Dochez and Slanetz¹¹ in a preliminary report state that sodium sulfanilyl sulfanilate, Figure 1, was used successfully in the treatment of four ferrets experimentally infected with the virus of canine distemper. Twenty-six out of twenty-eight dogs treated clinically recovered; the other two were at an advanced stage when first seen and developed severe pulmonary infection. Eighteen cats also showed good response. Although several other virus diseases, including poliomyelitis in monkeys, have been studied, these two appear to be the only ones so far showing any definitely positive results with this type of therapy.

Diaz de Leon¹² has described the successful treatment of fifteen cases of tertian malaria with Prontosil. Kolmer¹³ has reported on the properties of pyridine derivatives. The number of experiments is limited, but the effect on streptococcal infections in mice and rabbits is such as to warrant further study.

Rosenthal¹⁴ and his associates have made an excellent study of the effects of several sulfur compounds on the pneumococcus. They showed the practical advantages of combining specific serum with chemotherapy, by adjusting the infecting dose of organisms so that less than 12 percent of the mice survived by either treatment alone. When the two were combined, 40 to 45 percent survived.

It has been shown that compounds not so closely related to sulfanilamide may be of value. As far back as 1934 Rosenthal¹⁵ found sodium formaldehyde sulfoxylate effective in treating mice infected

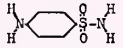
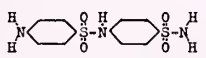
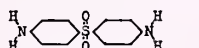
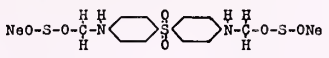
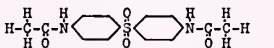
	M.E.D.	M.T.D.	T.I.
Sulfanilamide 	0.75	2.5	3.3
Disulfanilamide 	1.6	8.0	5.0
Diamino diphenylsulfone 	0.025	0.15	6.0
Formaldehyde sulfoxylate sulfone 	0.2	3.0	15.0
Diacetyl diamino diphenyl sulfone 	0.2	>4.0	>20.0
M.E.D.: Minimum Effective Dose. M.T.D.: Maximum Tolerated Dose. T.I.: Therapeutic Index, $\frac{M.T.D.}{M.E.D.}$			

FIGURE 2

with one particular strain of Type I pneumococcus, though of no value against other strains of the same type. Amino methyl sulfoxylic acid had a similar action, showing that activity did not depend on the formaldehyde group. Bauer and Rosenthal¹⁶ have studied the action of a group of substituted diphenyl sulfones and the corresponding sulfides. Some of these may prove to be superior to sulfanilamide. Figure II shows a few of these, with the minimum effective dose, maximum tolerated dose, and therapeutic index for each.

Summary. At present, the most important of the new chemotherapeutic agents is probably sulfanilamide. It has been found highly effective against several kinds of bacteria, especially the meningococcus and the more virulent forms of beta-hemolytic streptococcus. Other micro-organisms show varying degrees of susceptibility, and some are very resistant. Several other compounds, some of them closely related to sulfanilamide, have been found more effective against pneumococci, malaria and some virus diseases. A few of the newer ones show a lower relative toxicity for experimental animals, and therefore have the advantage of a more favorable therapeutic index, and permit the use of a higher dosage. The value of the most of these has not as yet been fully established by adequate clinical experience. Most of the compounds so far proven

valuable consist of one or more benzene rings to which are attached nitrogen and sulfur containing radicals, but the derivatives of pyridine apparently deserve further investigation. The toxicity is not the same for all species of animals; these drugs must therefore, even after the most careful animal experimentation, be used cautiously on human subjects.

The evidence available in the literature indicates that the therapeutic effect of sulfanilamide is probably due in large part to a directly damaging action on the organisms, resulting in bacteriostasis, greater susceptibility to phagocytosis, and impaired ability to produce toxin. The host is then able to destroy the bacteria faster than they are produced.

REFERENCES

1. Domagk, G.: Ein Beitrag zur Chemotherapie der bakteriellen Infektionen. *Deutsche med. Wchnschr.* 61:250-253, 1935.
2. Tréfouël, J.; Tréfouël, Mme. J.; Nitti, F.; and Bovet, D.: Activité du p-aminophenylsulfamide sur les infections streptococciques expérimentales de la souris et du lapin. *Compt. rend. Soc. de biol.* 120:756-758, 1935.
3. Buttle, G. A. H.; Gray, W. H.; and Stephenson, D.: Protection of mice against streptococcal and other infections by p-aminobenzenesulphonamide and related substances. *Lancet* 1:1286-1290, 1936.
4. Marshall, E. K., Jr.: Determination of sulfanilamide in blood and urine. *J. Biol. Chem.* 122:263-273, 1937.
5. Schmidt, E. G.: The determination of sulfanilamide in tungstic acid blood filtrates by means of sodium beta-naphthoquinone-4-sulfonate. *J. Biol. Chem.* 122:757-762, 1938.
6. Colebrook, L.; Buttle, G. A. H.; and O'Meara, R. A. Q.: Mode of action of p-aminobenzenesulphonamide and prontosil in haemolytic streptococcal infections. *Lancet* 2:1323-1326, 1936.
7. Bliss, E. A., and Long, P. H.: Failure of para-aminobenzenesulfonamide therapy in urinary tract infections due to Group D (Lancefield) beta-hemolytic streptococci. *New Eng. J. Med.* 217:18-21, 1937.
8. Bliss, E. A., and Long, P. H.: Observations on the mode of action of sulfanilamide. *J. A. M. A.* 109:1524-1528, 1937.
9. Osgood, E. E., and Brownlee, I. E.: Culture of human bone marrow. Studies on the mode of action of sulfanilamide compounds. *J. A. M. A.* 110:349-356, 1938.
10. Rosenthal, S. M.; Wooley, J. G., and Bauer, H.: Studies in chemotherapy; the chemotherapy of choriomeningitis virus infection in mice with sulphonamide compounds. *Pub. Health Rep.* 52:1211-1217, 1937.
11. Dochez, A. R., and Slanetz, C. A.: Treatment of canine distemper with a chemotherapeutic agent, sodium sulfanilyl sulfanilate. *Science* 87:142-144, 1938.
12. Diaz de Léon, A.: Treatment of malaria with sulfonamide compounds. *Pub. Health Rep.* 52:1460, 1937.
13. Kolmer, J. A.; Brown, H.; and Raiziss, G. W.: Chemotherapy of experimental streptococcus infections of rabbits with special reference to pyridine compounds and prontosil soluble. *J. Pharmacol.* 61:253-271, 1937.
14. Rosenthal, S. M., et al.: Studies in chemotherapy. *Pub. Health Rep.* 52:48-53; 192-196; 662-671; 685-695, 1937; 53:40-49, 1938.
15. Rosenthal, S. M.: Studies in chemotherapy. Action of sodium formaldehydesulfoxylate in bacterial infections. *Pub. Health Rep.* 49:908-911, 1934.
16. Bauer, H., and Rosenthal, S. M.: Studies in chemotherapy. Some new sulfur compounds active against bacterial infections. *Pub. Health Rep.* 53:40-49, 1938.

Rhode Island Hospital

SCHEDULE FOR SEPTEMBER, 1938

MONDAYS:

September 5, Labor Day
I Surg. Grand Rounds September 12, 26
II Surg. Grand Rounds September 19
Surgical Grand Rounds 10:00 A. M.
Thoracic Clinic 4:30 P. M.

TUESDAYS:

Gastro-Intestinal Clinic 9:30 A. M.
Surgical Grand Rounds 10:00 A. M.
I Surg. Grand Rounds September 6, 20
II Surg. Grand Rounds September 13, 27

WEDNESDAYS:

Tumor Clinic 10:00 A. M.

THURSDAYS:

Orthopedic Grand Rounds 9:00 A. M.
Thoracic Clinic 11:30 A. M.
Gyn. Staff Meeting 8:30 P. M. September 1

FRIDAYS:

INTERNS REUNION SEPTEMBER 9, 10
Fracture Grand Rounds 11:00 A. M.
Pediatric Grand Rounds September 2, 16, 30
G. U. Staff Meeting 7:30 P. M. September 2
Surg. Staff Meeting 8:30 P. M. September 2

SATURDAYS:

Neurological Grand Rounds 9:00 A. M.
Medical Conference 10:00 A. M.

Memorial Hospital

A new active dental service has been established at the Memorial Hospital. The main purpose of the service will be to find, and eliminate where necessary, all foci of infection having a direct bearing on the rapidity of recovery of hospitalized patients. The dental staff is anxious to give and receive the utmost cooperation in the interests of the patients in the Hospital.

The following four doctors have entered The Memorial Hospital for Internship of 18 months: Kenneth Cedric VonPohle, M.D., Los Angeles, California. Duncan Hector Campbell Ferguson, M.D., Pawtucket, R. I. William Joseph O'Connell, M.D., East Providence, R. I. Howard William Umstead, M.D., Providence, R. I.

Two will arrive September first: Roy Walter Nelson, M.D., Attleboro, Mass. Bert Simmons Jeremiah, M.D., Providence, R. I.

Mr. Adrien G. Tetreault of Central Falls has completed two months as a medical student at The Memorial Hospital.

ANSWERS TO COMMON QUESTIONS

CHARLES BRADLEY, M.D.
EAST PROVIDENCE, RHODE ISLAND

It is essential that parents understand as clearly as possible the nature and treatment of so dreaded and vague a syndrome as convulsive disorders. In practice certain questions arise with unusual frequency. It may be helpful to anticipate some of them for which reason the following common requests for information are given specific answers.

"Has my child epilepsy, doctor?" There appears to be no advantage in using the term epilepsy at the present time inasmuch as it implies a discouraging prognosis and is associated with a certain amount of social stigma. It should be explained to the parents that the convulsion is a symptom of some underlying disorder and that every attempt must be made to ascertain its cause. Even in the absence of removing the etiology, treatment may be effective, and except in long-standing disorders where mental deterioration has already taken place, a discouraging prognosis is not warranted unless adequate treatment fails.

"Are convulsions often due to worms?" Intestinal parasites were formerly blamed for a great variety of pediatric disorders, the number of which has gradually diminished with the spread of medical knowledge. In the light of our present knowledge, convulsions are probably very rarely caused by worms. If there is definite indication that worms are present, they should of course be treated.

"Will my child outgrow his fits?" A very few children who have repeated convulsions recover spontaneously without treatment. There is no accurate way of knowing in advance which children will have this fortunate outcome and in no case should it be awaited with any degree of confidence.

"What can my child eat?" Unless the child is being definitely treated by one of the accepted forms of dietary therapy, only the ordinary commonsense restrictions of his diet are necessary. Over-eating, constipation, etc., undoubtedly precipitate occasional seizures in susceptible children, but ordinary rules of hygiene do not permit of excesses.

"Is epilepsy inherited?" Granted that the term

epilepsy serves no very good use in clinical practice, it must be stated that the direct inheritance of most nervous and mental disorders is still a matter of some conjecture. Unless there is a definitely large incidence of convulsive disorders in the immediate family or antecedents, the child's convulsions are probably not caused by any defect or metabolic disturbance which has an hereditary basis.

"Is there any hope for the child who has convulsions?" The investigation of these conditions should always be carried out in a hopeful spirit, and no definite prognosis should be given until the search for a cause has been exhaustive, and various forms of therapy have been tried. A working hypothesis that one-third of all patients can be completely relieved, one-third aided, and one-third not helped at all, regardless of the etiology, is one practical outlook on this situation. Most treatment is still empirical but fortunately fairly successful.

"Should I allow my child to get tired?" For most children with convulsions, particularly if their parents are solicitous enough to ask this question, a fairly busy routine should be planned. A happy life of activity leaves little time to anticipate seizures and is some assurance that they will not recur as frequently as expected. The author has seen very few children in whom limitation of activity has decreased the number of seizures.

"Will injections help my child?" Although many useful drugs are now available in hypodermic form, all of the reliable methods of treatment of convulsive disorders may be given by mouth except in emergencies.

"Will it harm other children to see my child having a fit?" The attitude of children towards such affairs is almost entirely determined by the attitude of the adults who are with them. A calm, matter-of-fact attitude in dealing with a child who is having a convulsion will not upset other children, whereas consternation, excitement, and pity will certainly disturb most children.

"Can fright cause convulsions?" Any emotional upset may precipitate an individual seizure in a patient who is susceptible to convulsions. There is no very definite evidence that emotional upsets in themselves are the primary causes of seizures.



Memorial Hospital

Entrance to MacColl Building

Reprinted by courtesy of the Superintendent of Memorial Hospital

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JAMES R. MACCOLL

James Robertson MacColl was born in Glasgow, Scotland, April 2, 1856. He died at his home in Providence on November 23, 1931, in his seventy-sixth year. His father, Hugh MacColl of Glasgow, was a descendant of the MacColls of the Island of Mull, visited by Samuel Johnson and James Boswell on their "Tour of the Hebrides" in 1773. The mother, Janet Robertson MacColl, was the daughter of a prosperous iron founder of Glasgow. James R. MacColl took a course at Glasgow Technical College and early in life achieved success and reputation in Glasgow as a manufacturer of dress goods. In 1882, he came to Pawtucket, Rhode Island, to take the position of manager of the Lorraine Mills.

Mr. MacColl soon became a prominent figure, not only in the textile industry but also in varied civic and national affairs. He was a member of the Tariff Committee of the National Association of Wool Manufacturers, a director of the Chamber of Commerce of the United States from 1914 to 1920, a member of the American Committee of the International Chamber of Commerce, Regional Vice-President of the American Arbitration Association of 1929. He also found time to engage in charitable work. He was President of the Rhode Island Anti-Tuberculosis Association from 1908 to 1910 and a Vice-President of the Providence Community Fund, Inc. in 1930 and 1931. He was one of the incorporators and a director of the Pawtucket Memorial Hospital. Beside his financial contributions to that institution his personal interest was constantly evident in his work as a member of the Board of Directors up to the time of his death.

Mr. MacColl was married in 1884 to Miss Agnes Bogle of Glasgow. They had five sons, who survive.

The only daughter, Margaret MacColl, died in 1893 at the age of five and one-half years.

In 1929, the Trustees of the Memorial Hospital announced the offer of a gift from a friend who at that time requested that the name be withheld, of \$200,000, for a new building for the treatment of children's diseases and for maternity cases. On June 1, 1931, the MacColl Building was opened for patients. A bronze tablet in the reception room at the entrance states: "The MacColl Memorial, A. D. 1931. Given by James R. and Agnes B. MacColl, for Treatment of Children's Diseases and Care in Maternity, as a Memorial to their Daughter, Margaret, July 24, 1888-December 26, 1893." The architect was fortunate in that he planned a building of the greatest utility for its purpose combined with a design in perfect harmony with the graceful lines of the older buildings in this hospital group. The first floor is given up to attractive wards and rooms for the sick children and rooms for private patients. The conveniently arranged maternity department occupies the entire second floor.

We must gratefully remember the single visit following the completion of the building, only a short time before his death, which Mr. MacColl was able to make. That one time, he himself beheld the excellence of his plan.

Patience and delicacy should characterize all the acts of a physician. The confidences concerning individual or domestic life entrusted by a patient to a physician and the defects of disposition or flaws of character observed in patients during medical attendance should be held as a trust and should never be revealed except when imperatively required by the laws of the State. There are occasions, however, when a physician must determine whether or not his duty to society requires him to take definite action to protect a healthy individual from becoming infected, because the physician has knowledge, obtained through the confidences entrusted to him as a physician, of a communicable disease to which the healthy individual is about to be exposed. In such a case, the physician should act as he would desire another to act toward one of his own family under like circumstances. Before he determines his course, the physician should know the civil law of his commonwealth concerning privileged communications.

From the Code of Ethics of the A. M. A.

STATEMENT OF INVESTED FUNDS

J. W. C. Ely Fund

January 1, 1937		January 1, 1938	
37 shares Rhode Island Public Service Co.	\$1,071.67	37 shares Rhode Island Public Service Co.	\$1,071.67
Interest	74.00	11½ new shares Common Stock, Mechanics Nat. Bank	280.00
11½ new shares Common Stock, Mechanics Nat. Bank	280.00	Paid Rhode Island Medical Society for Journals	74.00
Interest in default			
	<u>\$1,425.67</u>		<u>\$1,425.67</u>

Endowment Fund

January 1, 1937		January 1, 1938	
Jan. 28 Sold Oklahoma Gas & Electric Co.	\$2,060.00	16 shares National Bank of Commerce & Trust Co.	\$1,200.00
Coupons	50.00	74 shares Providence Gas Co.	906.50
	<u>\$2,110.00</u>	Peoples Savings Bank	3,245.92
Jan. 28 Purchased 16 shares National Bank of Commerce & Trust Co.	\$1,200.00		
74 shares Providence Gas Co.	906.50		
Postage, insurance, etc.	3.50		
	<u>\$2,110.00</u>		
16 shares National Bank of Commerce & Trust Co.	\$1,200.00		
Interest	48.00		
74 shares Providence Gas Co.	906.50		
Interest	44.40		
Peoples Savings Bank	3,076.14		
Bank interest	77.38		
	<u>\$5,352.42</u>		<u>\$5,352.42</u>

Frank L. Day Fund

January 1, 1937		January 1, 1938	
3,000 Canadian National Railway Co. 4%	\$2,979.75	3,000 Canadian National Railway Co.	\$2,979.75
Interest	135.00	Paid for Medical Books	98.43
Industrial Trust Company	411.91	Industrial Trust Company	448.48
	<u>\$3,526.66</u>		<u>\$3,526.66</u>

E. M. Harris Fund

January 1, 1937		January 1, 1938	
Jan. 23 Sold Central Arizona Light & Power Co.	\$1,050.00	2,000 A-NY & B-NY Realizing Corp. Debentures	\$2,000.00
Interest	7.08	4 shares stock A-NY & B-NY Realizing Corp.	
	<u>\$1,057.08</u>	2,000 General Public Utilities	1,980.00
Jan. 23 Purchased 26 shares Nicholson File Co.	\$1,040.00	26 shares Nicholson File Co.	1,040.00
Balance from sale	17.08	Paid R. I. Medical Society for Repairs on Building	305.80
	<u>\$1,057.08</u>		

2,000 A-NY & B-NY Realizing Corp.		
Debentures 5½%	\$2,000.00	
4 shares stock A-NY & B-NY Realizing Corp.		
Payment on prin. of above debentures and interest	91.00	
2,000 General Public Utilities Co. 6½%	1,980.00	
Interest	156.00	
26 shares Nicholson File Co.	1,040.00	
Interest	33.80	
Central Arizona Light & Power Jan. interest	25.00	
	<hr/>	
	\$5,325.80	\$5,325.80

Herbert Terry Fund

January 1, 1937		January 1, 1938	
96 shares Providence Gas Co.	\$1,152.00	96 shares Providence Gas Co.	\$1,152.00
Interest	76.80	Paid Rhode Island Medical Society for Journals	33.50
Balance on hand	528.20	Balance on hand	571.50
	<hr/>		<hr/>
	\$1,757.00		\$1,757.00

James R. Morgan Fund

January 1, 1937		January 1, 1938	
Jan. 28 Sold Missouri Light & Power Co.	\$ 515.00	43 shares Providence Gas Co.	\$ 526.75
Coupon	11.25	Paid Rhode Island Medical Society for Expenses	25.80
	<hr/>		<hr/>
	\$ 526.25		
Jan. 28 Purchased 43 shares Providence Gas Co.	\$ 526.75		
Interest	25.80		
	<hr/>		<hr/>
	\$ 552.55		\$ 552.55

James H. Davenport Fund

January 1, 1937		January 1, 1938	
89 shares Providence Gas Co.	\$1,068.00	89 shares Providence Gas Co.	\$1,068.00
Interest	71.20	Balance on hand	451.93
Balance on hand	380.73		
	<hr/>		<hr/>
	\$1,519.93		\$1,519.93

Cataloguing Fund

January 1, 1937		January 1, 1938	
Peoples Savings Bank, Clinical Conference Fund	\$ 135.92	Paid out during 1937	\$ 12.50
Interest	3.40	Peoples Savings Bank	139.32
Providence National Bank, Checking Account inc. Gift from Fiske Fund Trustees	220.57	Providence National Bank, Checking Account	208.07
	<hr/>		<hr/>
	\$ 359.89		\$ 359.89

Participation Account

January 1, 1937		January 1, 1938	
Providence Institution for Savings	\$ 553.47	Providence Institution for Savings	\$ 567.38
Interest	13.91		
	<hr/>		<hr/>
	\$ 567.38		\$ 567.38

RHODE ISLAND MEDICAL SOCIETY**Report of Delegate to the
American Medical Association**

The recent meeting of the American Medical Association in San Francisco was noteworthy in many respects. There is a marked desire of the general membership of the medical profession for self improvement in the newer developments of medical knowledge and progress of the medical societies throughout the country reflect this interest. There is also an awakened interest in the present social and economic questions confronting the country as a whole and particularly those connected with medical practice. In every part of the country various phases of this problem are being discussed. This is shown by the fact that during the past year the membership of the American Medical Association has been increased by 4,000, to the all time high of 109,435 members. This is ample evidence in refutation of the press reports of dissension in our organization. There is an awakening of physicians throughout the country to the obligations of medicine and medical practice. Social and economic conditions are inseparably intermingled with health and sickness and it is reasonable to believe that until the economic conditions are improved no satisfactory measures can be taken to socialize the practice of medicine.

The House of Delegates held four busy sessions which were attended by your Delegate. One of the most interesting resolutions was one concerning a traveling hall of health, in which exhibits of all kinds pertaining to public health and the practice of medicine may be displayed in all parts of the country under co-sponsorship with the constituent State Associations.

Much thought is being given to the status of laboratories, X-ray and physical therapy departments and the department of anesthesia in Hospitals throughout the country. With the rise of insurance plans by which insurance payments are made which guarantee medical care in hospitals to those participating in the plan, it is necessary that the above mentioned departments should not be included in these plans. Arrangements should be made for separate payments to physicians in charge of these departments, or otherwise we shall have the anomalous position of the hospitals engaging in the practice of medicine.

Perhaps the high light of the Session was the address prepared by Miss Josephine Roche, Chairman of the Interdepartmental Committee to co-ordinate Health and Welfare Activities of the Federal Government, which was read by Assistant Surgeon General of the United States Public Health Service, Dr. Warren F. Draper, himself a member of the House of Delegates. After hearing this address it was plainly evident that the Federal Government had undoubtedly formulated a plan in its own mind and this was borne out by the fact that at the National Health Conference, held in Washington July 18, 1938, a plan was submitted recommending the appropriation of large sums of money for the medical care of the indigent. The Health Survey of the Federal Committee is at variance with data collected by the American Medical Association and now in process of being analyzed and prepared for submission to the medical profession as a whole. It is noteworthy that the address of Miss Roche is the first communication ever received by the organized medical profession from the Federal Government. The A. M. A. in reply stated that, as always, it was ready to aid in every possible way in the establishment of a workable plan for medical care of the indigent.

The election of officers was held on the last day of the Session and Dr. Rock Sleyster was chosen President-elect. Places of meetings were selected three years in advance, in order to assure adequate hotel accommodations at reasonable rates. St. Louis was chosen the meeting place for 1939, New York for 1940, and Cleveland for 1941.

Respectfully submitted,

ROLAND HAMMOND, M.D.

AMERICAN BOARD OF INTERNAL MEDICINE, Inc.

Written examinations for certification by the American Board of Internal Medicine will be held in various parts of the United States on Monday, October 17, 1938, and on Monday, February 20, 1939.

Formal application must be received by the Secretary before September 15, 1938 for the October, 1938 examination, and on or before January 1 for the February, 1939 examination.

Application forms may be obtained from William S. Middleton, M.D., Secretary-Treasurer, 1301 University Avenue, Madison, Wisconsin, U. S. A.



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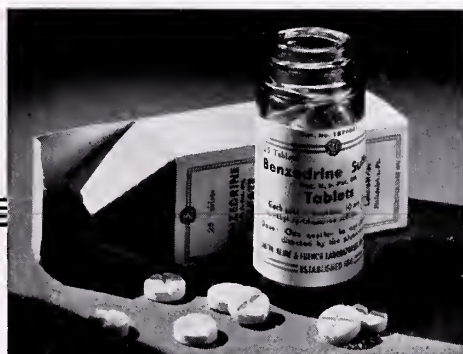
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RHODE ISLAND MEDICAL JOURNAL

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FISKE FUND PRIZE ESSAY

1939

The Trustees of the Fiske Fund announced at the annual meeting of the Rhode Island Medical Society, held in June 1938, that they proposed the following subject for the year 1939.

"Caesarean Section—Indications and Contraindications for the Various Types of Operations"

For the best essay on the subject worthy of a premium they offer the sum of one hundred and fifty dollars (\$150.00). Every competitor for the premium is expected to conform with the following regulations, namely:

To forward to the secretary on or before the first day of May 1, 1939, free of all expense, a copy of his dissertation with a motto thereon, and also accompanying it a sealed envelope having the same motto, inscribed on the outside, and his name and address within.

Previously to receiving the premium awarded, the author of the successful dissertation must transfer to the Trustees all his right, title and interest in and to the same, for the use, benefit and behoof of the Fiske Fund.

Letters accompanying the unsuccessful dissertations will be destroyed unopened, by the Trustees, and the dissertations may be procured by their respective authors if application be made therefor within three months.

The essays must be typewritten and should not exceed 10,000 words. If an essay be illustrated, such illustrations will be published at the expense of the author.

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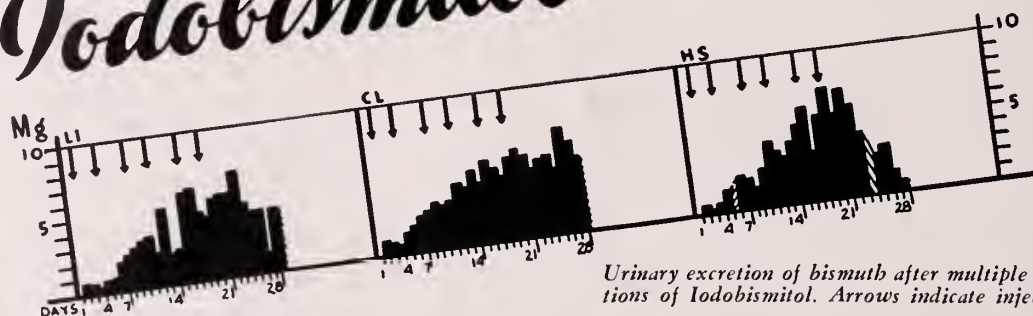
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¹ Sollmann, T., Cole, H. N., Henderson, K., et al.: *Amer. J. Syph., Gon. & Ven. Dis.* 21:480 (Sept.), 1937.

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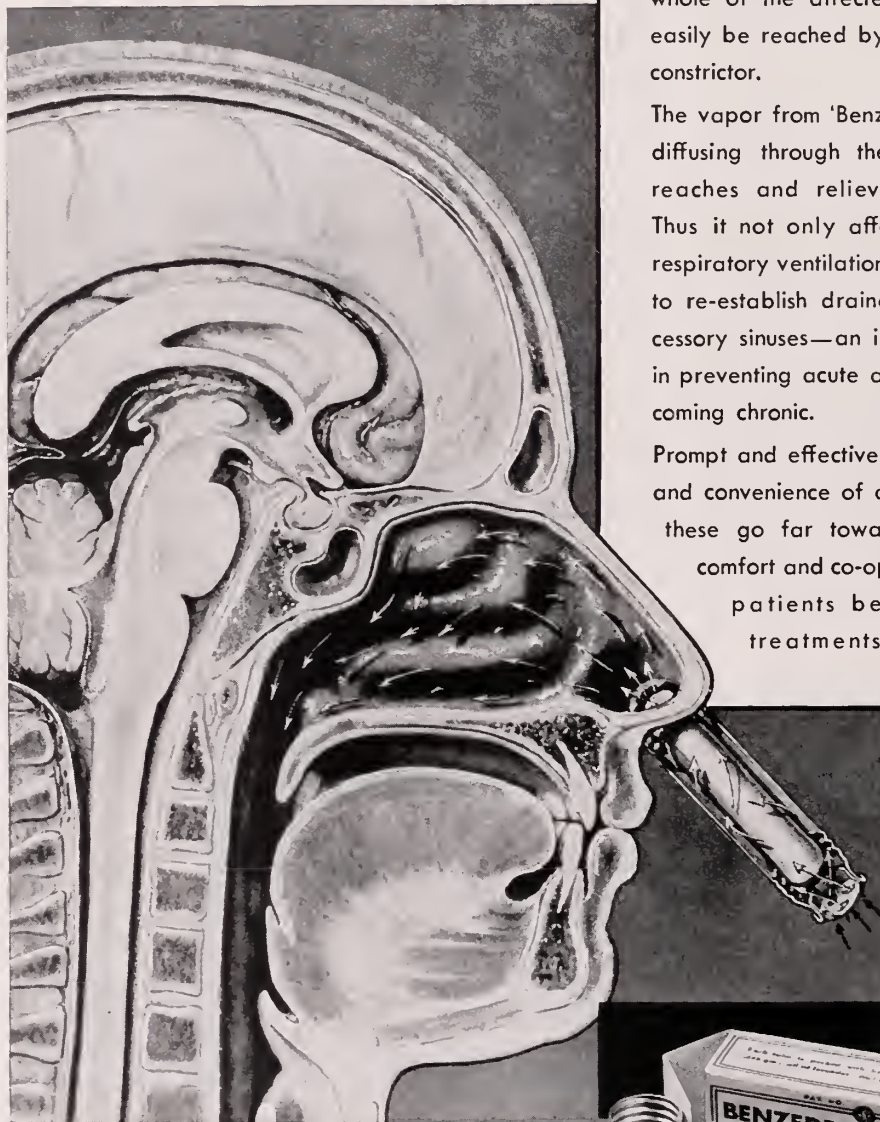
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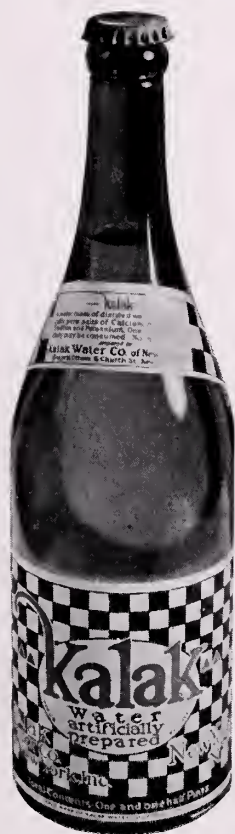
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RECENT ADVANCES IN THE SCIENCE OF NUTRITION

II. Newer Knowledge of the P-P Factor and the Control of Endemic Pellagra

● The years since 1932, when the P-P factor was known variously as vitamin B₂ or G, have been especially marked by contributions to our knowledge of the anti-pellagic vitamin. Considerable progress has also been made in the treatment of human pellagra as well as in the control of the disease. It might be of interest to review briefly a few of the outstanding developments in this field.

The P-P factor is now accepted as being closely related chemically to nicotinic acid if, indeed, it is not identical with that compound (1). Nicotinic acid has been used successfully in the treatment of human pellagra (2) and there is evidence to support the belief that the P-P factor is intimately associated with essential enzyme reactions in the body (3). A laboratory test has been devised for the early clinical detection of pellagra (4) and there is today better agreement as to the basic dietary requirements for the management of florid pellagra (1).

While the situation as regards endemic pellagra has, in general, shown improvement during recent years, an occasional report indicates that endemic pellagra still constitutes a major medical problem in some localities (5). Authorities agree that the old adage relating to an ounce of prevention being the equal of a pound of cure applies particularly well in the case of pellagra. Consequently, in specific regions of this country certain control measures have been advocated in an endeavor to bring this deficiency disease under permanent control. The most promising of these measures are

the issuance of yeast rations and popular education to the desirability of home production of foods rich in the P-P factor, especially during late winter and early spring. The problem of permanent control of pellagra has been clearly and briefly defined as follows:

"The prevention of endemic pellagra is simple in theory but difficult in practice. If every normal person received enough of the foods containing the pellagra-preventive vitamin there would be no endemic pellagra.—Permanent control can be obtained only by bringing about permanent changes in dietary habits" (1).

The correction of those long-standing dietary malpractices which are responsible for pellagra is certain to be brought about only slowly. The concerted and sustained efforts of all agencies concerned with public health will be required, not only to insure observance of the control measures described above, but also to educate the potential pellagrin to the necessity of a varied diet of protective foods.

Commercially, canned foods may play an important part in the current program designed to bring pellagra under control. Several hundred varieties of canned foods are readily available on every American market at all seasons of the year. Judicious inclusion in the diet of those foods known to be important carriers of the anti-pellagic factor (1) should materially assist in effecting permanent control of endemic pellagra in America.

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230 Park Avenue, New York, N. Y.

- (1). 1938. J.A.M.A. 110, 1665.
 (2). 1938. J.A.M.A. 111, 584.
 1938. Ibid. 111, 613.
 1938. Ibid. 110, 289.

- (3). 1938. J.A.M.A. 111, 28.
 (4). 1938. J. Med. Assn. State of Alabama. 8, 52.
 (5). 1938. J. Med. Assn. State of Alabama. 7, 475.

This is the forty-first in a series of monthly articles, which summarize, for your convenience, the conclusions about canned foods reached by authorities in nutritional research. We want to make this series valuable to you, so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



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Invert sugar	4%
Minerals	0.8%



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1 oz. vol.....	40 grams
	120 cal.
1 oz. wt.	28 grams
	90 cal.
1 teaspoon	15 cal.
1 tablespoon ...	60 cal.

The values of an infant food can only be judged by composition. Otherwise gross errors in infant feeding occur. When you consider that volume for volume, Karo Syrup furnishes *twice* as many calories as a similar sugar modifier in powdered form, you realize *how* strongly saturated Karo is in calories of maltose-dextrins-dextrose.

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Remove both top and side caps. Wipe dropper tip. Regulate rate of flow by using finger to control entrance of air through top opening (see below). Oleum Percomorphum is best measured into the child's tomato juice. This is just as convenient and much safer than dropping the oil directly into the baby's mouth, a practice which may provoke a coughing spasm.



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Ephedrine gives relief in head colds by topical application and also by oral administration.

Inhalant Ephedrine Compound contains camphor, menthol, and oil of thyme as aromatics.

Inhalant Ephedrine Plain is supplied without aromatics.

Ephedrine Jelly contains ephedrine sulfate 1 percent and is delicately aromatized.

Pulvules Ephedrine Sulfate are supplied in 0.025-Gm. (3/8-grain) and 0.05-Gm. (3/4-grain) sizes in bottles of 40 and 500 pulvules.

Syrup Ephedrine Sulfate and Elixir Ephedrine Sulfate are also available and are supplied in one-pint bottles.

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SULFANILAMIDE IN THE TREATMENT OF BETA HEMOLYTIC STREPTOCOCCAL INFECTION

KALEI K. GREGORY, M.D.
CHARLES V. CHAPIN HOSPITAL, PROVIDENCE

During the past year much experimental data and many clinical reports covering most phases of the action of sulfanilamide and its derivatives have appeared in the scientific and medical journals in this country. Up to this time such reports were found only in similar publications in Europe. It is our purpose to present to you a preliminary report of our experience in the treatment of various infectious diseases with sulfanilamide with the hope that it may contribute further to our knowledge on this very important drug.

Three hundred and one patients ill with beta-hemolytic streptococci and with several other kinds of bacteria were treated by us with sulfanilamide and Prontosil during a period of over a year. They were as follows:

	<i>No. of Recov- Cases eries</i>		<i>Deaths</i>
1. Scarlet fever	114	114	0
2. Cervical adenitis	23	23	0
3. Suppurative otitis media	13	13	0
4. Tonsillitis and pharyngitis	19	19	0
5. Peritonsillar abscess	6	6	0
6. Retropharyngeal abscess	1	1	0
7. Cellulitis	9	8	1
8. Erysipelas	45	41	4
9. Acute meningitis, BHS.	3	3	0
10. Maxillary sinusitis, BHS.	1	1	0
11. Meningococcal meningitis	17	14	3
12. Acute gonococcal urethritis	10	10	0
13. Acute gonococcal epididymitis	6	6	0
14. Acute gonococcal arthritis	4	4	0
15. Acute gonococcal vaginitis (chil- dren)	6	6	0
16. Acute gonococcal salpingitis	3	3	0
17. Acute gonococcal conjunctivitis ..	3	3	0
18. Influenzal bacillus meningitis	3	1	2
19. Pneumococcal meningitis	3	0	3
20. Staphylococcus aureus meningitis and septicemia	1	0	1
21. Tuberculosis meningitis	2	0	2
23. Lymphocytic chorio meningitis	1	1	0
24. Pyelitis B. coli	2	2	0
23. Cystitis B. coli	1	1	0
25. Post abortal infection:			
Staphylococcus aureus	2	2	0
Streptococcus viridans septi- cemia	1	0	1
Beta-hemolytic streptococcus	1	1	0
26. Lobar pneumonia (untyped) in infant	1	1	0
	301	284	17

At the very out-set we felt that sulfanilamide and its derivatives, being relatively new drugs, required a critical, though fair, clinical trial. Our *modus operandi*, therefore, consisted of selecting proper cases for treatment, keeping close observation and detail record of each case, and making certain that the dosage of the drug was adequate. In the selection of the cases it was important that the bacteriological etiology be known before treatment was given. At first we confined treatment with the drugs to patients with beta-hemolytic streptococcal infections; later we included meningococcal meningitis, gonococcal infections, and several other forms of bacterial infection.

We consider the dosages very important and in this we were aided by the suggestions of Long and Bliss.¹⁷ These investigators found that 1-10,000 was the most effective dilution of sulfanilamide to cause bacteriostasis *in vitro*. On this basis, they calculated what they believed adequate and safe dosages for man. Shortly afterwards, however, Marshall and his associates,¹⁸ developed a method by which an accurate quantitative determination of sulfanilamide in the blood and other body fluids could be made. They found that the maximum concentration of the drug in the blood when taken *per os* was reached in about four hours, and this was about the same rate of absorption as when it was given by hypodermoclysis. Using this means of determining the blood sulfanilamide levels as a check, proper dosages and a definite plan of treatment were formulated. In severe infections such as beta-hemolytic streptococcal meningitis, or meningococcal meningitis, a large initial dose of the drug is given either by mouth or by hypodermoclysis with the aim of attaining a blood level of 10mg per 100cc of blood

From the Charles V. Chapin Hospital.

The second of four papers in a symposium on Sulfanilamide, presented before the Providence Medical Association, at the meeting on April 4, 1938. The first paper has been printed in the September number.

within four hours. When this is accomplished a maintenance dose is given every four hours until the patient is considered improved enough for a reduction in the dosage. It is advisable to check on the blood level of the drug at the end of the first four hours. If the level is below the desired 8 to 10mg. then sulfanilamide should be given parenterally. Another check is advised at the end of the first 24 hours in order to determine the adequacy of the maintenance dose.

We have condensed in a table the dosages of sulfanilamide and 2.5% Prontosil solution as suggested by Long and Bliss.¹⁹

IN SEVERE INFECTIONS

Sulfanilamide Tablets for Administration by Mouth

	Initial Dose	Maintenance Dose	Intervals
Adults, 100 lbs. and over	50-90 grs.	15 grs.	4 hours
Adults, 50-90 lbs.	30-50 grs.	10-15 grs.	4 hours
Children, 25-50 lbs.	20-30 grs.	5-10 grs.	4 hours

0.8% or 1% Sulfanilamide in Normal Saline for Parenteral Administration

	Initial Dose	Maintenance Dose	24 Hours
Adults, 100 lbs. and over	700cc	500cc	8 hours
Adults, 50-90 lbs.	300-500cc	200-300cc	8 hours
Children, 25-50 lbs.	100-300cc	100-200cc	8 hours
Babies	One gram per 10 lbs. during first 24 hours		

Intrathecal Administration

5 to 10cc less than amount of cerebrospinal fluid removed

2.5% Prontosil Solution for Subcutaneous Administration

Adults, 100 lbs. and over	20cc at 4 hr. intervals for 24 hrs.
Adults, 50-90 lbs.	10-15cc at 4 hr. intervals for 24 hrs.
Children, 10-50 lbs.	5-10cc at 4 hr. intervals

Prontosil is definitely irritating when given intrathecally. Severe reactions may occur if given intravenously.

MODERATELY SEVERE INFECTIONS

Tablets by Mouth:—

Adults, 10-15 grs. at 4 hour intervals
Children, 5-10 grs at 4 hour intervals

VERY MILD INFECTIONS

Tablets by Mouth:—

5-15 grs. 4 times daily

After the patient has shown definite clinical improvement the drug should be rapidly reduced to one-half, then finally to one-third or one-fourth of the original maintenance doses. The drug is then continued until convalescence is well established. In some instances it is advisable even to continue the drug for two weeks longer. In the main, we have adhered to these dosages fairly closely, but as we gained more experience we altered them according to our own needs.

The Prontosil solution, 2.5%, was the only one of these drugs available to us at the beginning of our undertaking. After having used it for a short time we received objections from the patients. The

chief objection was the pain from the injections rather than from any local or general reaction of the drug. Some patients refused altogether to take further injections. We were, therefore, glad to receive Prontylin tablets for oral administration. In a short time we noted that Prontylin by mouth was just as efficient if not superior to Prontosil in its therapeutic effect, and certainly it was more pleasant to the patients and simpler to administer. Since then we have used nothing but Prontylin tablets by mouth, and the 0.8% or 1% Prontylin solution for parenteral use.

As our report is in the form of a symposium and as the time allotted is limited, many details and some interesting observations must of necessity be omitted in this discussion.

Two hundred and thirty-three of our total number of 301 cases were caused by beta-hemolytic streptococci. Twenty-three of these were cervical adenitis, both of scarlet fever and non-scarlet fever origin. There were fifteen of the former and eight of the latter. All these cases were selected either because they were severe or that they had resisted the usual local treatment. Some of the cases showed rapid dissolution of the enlarged glands when sulfanilamide was given, while in others the process was slow and in some instances rather disappointing. There seemed to be no obvious difference in the response to the drug of either the scarlet fever or the non-scarlet fever cervical adenitis. On the whole, our impression is favorable to the use of sulfanilamide in such infections.

The same conclusion can also be made on the thirteen cases of beta-hemolytic streptococcal suppurative otitis media. Some made remarkable recoveries, while in others improvement was discouragingly slow. It was noted that the more recent of the cervical gland or middle ear infections responded far more readily to the chemotherapeutic treatment than infections of longer standing. A total of nineteen cases of tonsillitis and pharyngitis, six of peritonsillar abscess, and one of retropharyngeal abscess were treated with sulfanilamide without a single fatality. The same was true of twenty-five other cases of tonsillitis and pharyngitis and seven of peritonsillar abscess which did not receive sulfanilamide. The morbidity was identical in each group and statistically the effect of the drug might apparently be considered indifferent were it not for the fact that the patients who were given the chemotherapeutic agent had severer infections. Our clin-

ical experience indicates that sulfanilamide is of definite value in severe throat infections of beta-hemolytic streptococcal origin.

One patient with a severe maxillary sinusitis responded readily to treatment with Prontosil. There were nine cases of cellulitis with one death. Two developed abscesses which were incised and drained. The one death was a white woman, 57 years old, who was in a stuporous condition on admission with a temperature of 104.2 F. She had cellulitis of the leg from a varicose ulcer, and a hemiplegia for four years following a "shock." The remaining eight patients responded well to treatment with the drug.

One hundred and fourteen cases of scarlet fever were treated with sulfanilamide. One hundred of these were treated routinely, with another one hundred as controls. This particular study was undertaken to determine the prophylactic value of sulfanilamide toward the usual complications of scarlet fever, and also to determine its value in ridding the nose and throat of beta-hemolytic streptococci, and thus eliminate carriers. This work is incomplete at the present time and will be the subject of another paper.

Fourteen cases of toxic scarlet fever were encountered. Three were treated with Prontosil, four with Prontylin, one with Prontosil and antitoxin, five with Prontylin and antitoxin, and one with Prontosil, antitoxin, and Prontylin. Scarlet fever antitoxin was given in each instance because the chemotherapeutic agents failed to relieve the patients of the toxic symptoms as promptly as was desirable in such cases. It has been our experience that in toxic scarlet fever the outcome might be very serious unless something was done to relieve the toxemia immediately. We have found the commercial scarlet fever antitoxin highly effective in this respect. Rather than take the risk of a fatal outcome for the patient, and incidentally an adverse record for the drugs, antitoxin was given without further ado. An analysis showed that in the first cases treated, the amount of the drug received in the first twenty-four hours was far below what was later considered adequate for such severely sick patients; which might have accounted for the poor results. Our next procedure then was to administer larger doses of sulfanilamide. Four cases treated in this manner were benefited, but only after several days of anxious waiting. The cyanosis, drowsiness, and general malaise which invariably developed when large doses of sulfanilamide were given made

it extremely difficult to determine the true condition of the patient. The temperature chart in these few cases did not help the anxiety of the attending physicians, because it dropped by slow lysis. From what is known of the therapeutic action of sulfanilamide one can hardly expect it to neutralize the toxin already present in all the tissues of the body, although we are aware of the conclusion to the contrary of Osgood.⁹ It would seem to us that the logical procedure to follow is the simultaneous administration of scarlet fever antitoxin and sulfanilamide in toxic cases. This we tried in two patients with excellent results.

In this series of beta-hemolytic streptococcal infection, there were forty-five cases of erysipelas with four deaths, a mortality rate of 8.9%. Thirty-two were erysipelas of the face, one of the arm, one of the trunk and arm, one of the scalp and neck, and ten were of the leg. Two of the total number of patients were under one year old, one was one month, and the other two and a half months. Eighteen were fifty years and over. It is to be recalled that erysipelas is a self-limiting disease, and that the mortality rate is high at the two extreme ends of life. It is highest in patients under one year old, the mortality rate being between 40% and 70%,²⁰ and in elderly patients 20% to 40%. The mortality rate for all ages is about 10%.²¹

On the whole, the result of treatment of this type of beta-hemolytic streptococcal infection with the chemotherapeutic drugs was highly effective. With few exceptions, the temperature dropped by crisis within twenty-four to forty-eight hours and a normal level was reached and maintained in the average of three to four days. The patient generally felt better and the erysipelatos lesion became less edematous and less red within twenty-four to forty-eight hours after the institution of the treatment. There were four extensions of the local lesion and one relapse. Three patients developed abscesses. All of the four deaths occurred in patients ranging in age from 53 to 79 years. In two of the patients the erysipelatos lesion continued to spread under treatment with Prontosil. They died within a week of admission to the hospital. One of them had diabetes mellitus. The third patient was also a diabetic and was in coma on admission. He died in sixteen hours. The fourth death was the direct result of coronary disease. This patient was considered cured of erysipelas and was ready to be discharged when the accident occurred.

Three patients with acute beta-hemolytic streptococcal meningitis of otitic origin were successfully treated with sulfanilamide. These cases perhaps deserve a little more detail consideration than the others. The first of these was a white girl, seven years of age, admitted to the hospital June 19, 1937, in a critical condition. She had had an acute otitis media of the right ear for one week and a paracentesis was done four days before admission. The patient first complained of headache and stiffness of the neck two days prior to hospitalization. On admission patient was moderately cyanotic and irrational. There was profuse purulent discharge from the right ear, but without tenderness or edema over the mastoid region. All the cardinal signs of meningeal irritation were present. Lumbar puncture revealed turbid spinal fluid with 1300 leucocytes mostly polymorphonuclear cells; Pandy +, and sugar 34mg. Thirty-five cubic centimeters of the 0.8% solution of sulfanilamide in normal saline was given intraspinally. Prontylin tablets were given by mouth. The intrathecal treatment was given once daily for nine days. X-ray pictures showed haziness in the right mastoid without cell destruction. Mastoidectomy was not performed. Cultures from the aural discharge showed staphylococcus aureus and beta-hemolytic streptococci. The first spinal fluid culture was positive for beta-hemolytic streptococci. All subsequent cultures were negative. The blood culture was negative. Convalescence was uneventful. Prontylin was continued by mouth in small doses until patient was discharged on her 36th day in the hospital.

The second patient was a white girl, sixteen years of age, who was admitted to the hospital January 3, 1938. She had contracted a sore throat the week before Christmas. A few days later she complained of an earache on the right side. She was admitted to one of the local hospitals and was doing well until two days before she was transferred to this hospital when she complained of a headache and stiffness in her neck. The patient was conscious and did not appear extremely sick on admission. Temperature was 100 F. There was purulent discharge from the right ear. Except for a slight tenderness, the right mastoid was negative on examination. All the cardinal signs of meningitis were present. The spinal fluid was cloudy and contained 5000 leucocytes mostly polymorphonuclear cells; Pandy +, sugar 50mg. Forty cubic centimeters of 1% Prontylin was

injected intrathecally. Prontylin tablets were given by mouth. The first two spinal fluid cultures were positive for beta-hemolytic streptococci. Subsequent cultures were consistently negative. A culture from the aural discharge showed beta-hemolytic streptococci. The blood culture was negative. The right mastoid showed cloudiness by x-ray pictures without cell destruction. Mastoidectomy was not done. Intrathecal treatment with Prontylin was given once daily for five days. Convalescence was uneventful. Prontylin was continued by mouth until patient was discharged on her forty-second day in the hospital.

The third and last patient with beta-hemolytic streptococcal meningitis was a seven year old white boy who was in extremes when admitted on January 9, 1938. He had had a sore throat and a right acute suppurative otitis media for about seventeen days. One week before admission he experienced severe headaches and fever. Three days prior to hospitalization began to vomit and continued up to the time of admission. Patient was semi-comatose and restless when examined. He was thin and markedly dehydrated. Temperature was 105.6 F. (rectal). There was a moderate amount of purulent discharge from the right ear, and a slight mastoid tenderness but without edema. The neck was rigid, but the Kernig and Brudzinski signs were negative. Lumbar puncture was performed and 45cc of 1% Prontylin solution were injected. There were 1200 leucocytes in the spinal fluid with polymorphonuclear cells predominating. Three hundred cubic centimeters of the 1% Prontylin was given intravenously on admission. The same amount was given twice the following day, and once on the third day. At this time the patient had improved enough to be able to take the Prontylin tablets by mouth. X-ray films of the right mastoid were negative. Mastoidectomy was not done. Lumbar puncture was done and Prontylin injected once daily for twelve days. The spinal fluid cultures of the first two punctures were positive for beta-hemolytic streptococci. Subsequent cultures were negative. The Pandy test was positive and sugar was 12mg on the first spinal fluid. The culture of the aural discharge showed staphylococcus aureus and beta-hemolytic streptococci. The blood culture was negative. The patient ran a spike temperature chart for sixteen days before leveling out. Prontylin tablets were continued by mouth until the patient was discharged, forty days after admission.

A total of thirty-seven cases of beta-hemolytic streptococcal meningitis, not including the three cases in this report, have been treated at the Charles V. Chapin Hospital since its founding twenty-eight years ago. All but one of the thirty-seven died, making a mortality rate of 97.3%. Schwentker and his colleagues,²² reported three recoveries out of four cases treated with sulfanilamide. They found from the records of the Johns Hopkins Hospital thirty-seven cases with 100% fatality. Holman and Duff,²³ in their extensive review of the literature on this subject found 89 recoveries from 1901 to 1937 in which sulfanilamide and its derivatives were not used. In the relatively short period of less than two years, they found records of forty-three recoveries following the use of these drugs.

If there had been any doubt in our minds as to the efficacy of sulfanilamide in the treatment of beta-hemolytic streptococcal infections, that doubt has been dispelled by the complete recovery of the three cases of beta-hemolytic streptococcal meningitis which we have successfully treated with this drug during the past few months.

SULFANILAMIDE IN THE TREATMENT OF OTHER BACTERIAL INFECTIONS

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This paper will be devoted to the results of sulfanilamide therapy in a group of miscellaneous infections. The group includes:

1. Gonococcal Infections
2. Pneumococcal Infections
3. Influenzal meningitis
4. Staphylococcal Infections
5. *Escherichia coli*
6. *Streptococcus viridans* Septicemia
7. *Staphylococcus aureus* meningitis
8. Tuberculous meningitis
9. Whooping Cough
10. Pneumonia
11. Lymphocytic chorio meningitis
12. Meningococcal meningitis

From the Charles V. Chapin Hospital.

The third paper in a symposium on Sulfanilamide, presented before the Providence Medical Association, at the meeting on April 4, 1938.

There were thirty-three cases with some form of gonorrheal infection in which sulfanilamide was used. Twenty of these cases were male adults who were admitted in most instances because of some complication such as epididymitis or arthritis. At the time we were interested in seeing the effect of the drug upon the urethral discharge and the rapidity with which the smears would become negative so, except in the arthritic cases, not much emphasis was placed on the effect of the drug on other complications. In this series there were also four cases with arthritis, six with vaginitis, three with salpingitis and three with conjunctivitis. In the male adult group, fifteen on admission had positive smears and a urethral discharge, three had no discharge and two had no smears taken. After administering the drug, the discharge stopped in eight of the cases; the earliest of which was two days and the latest fourteen days. Two had recurrence of their discharge. Nine developed permanently negative smears in from two to five days which remained negative. Six had persistently positive smears. One patient, after receiving 1455 grains, was then given protargol injections in addition to sulfanilamide. This resulted in some improvement in his condition. This patient had an epididymitis which was still evident after nineteen days treatment with the drug. One month after discharge patient still had positive smears.

The results obtained in the arthritic cases were more satisfying. Four cases were admitted with gonorrheal arthritis all of which received sulfanilamide. One patient developed a reaction in a few days so that the drug was stopped before any beneficial results could be noted. Two cases did very well and the fourth case was benefited but not as quickly.

One of the patients who did well might be mentioned in more detail. A woman was admitted with acute arthritis of left elbow and tenosynovitis of right wrist. Slightest movement of either upper extremity caused excruciating pain. For five days she was treated with infra-red lamp and foreign protein without results. Sulfanilamide was started on the sixth day. The inflammation rapidly subsided. On the fourth day of this treatment, temperature was normal, swelling and tenderness were gone and there was a complete return of function.

Six cases of gonococcal vaginitis in children, four of which had positive smears, were treated with sulfanilamide. Two of these had previously received

theelin subcutaneously in large dosages without any appreciable effect on the discharge, although the smears became negative. After sulfanilamide therapy the discharge ceased in three cases in from five to thirteen days. The smears became negative in two cases in from five to twelve days. The discharge persisted in three cases; two of which had persistently positive smears in spite of large dosages—1280-1420 grains in forty-seven days. Endoscopic examination showed the cervix to be involved in all three cases.

Three cases of gonococcal conjunctivitis in children were treated with sulfanilamide by mouth and subcutaneously along with the usual routine treatment of irrigation. Two had positive smears and the third had negative smears on admission although clinically it was a gonococcal conjunctivitis. Two did very well with this combined therapy and were discharged in five and nine days. The other case showed no improvement, and developed corneal ulceration. Of the two that did well, one remarkable cure resulted. A fourteen months old boy was admitted with an acute gonococcal conjunctivitis. The smear from the conjunctiva was positive for gonococci. On admission he received 300 c.c. of the 1% solution subcutaneously. In twenty-four hours the inflammation had practically ceased; smears were negative and the discharge was very scanty. The drug was given by mouth until he was allowed to go home on the sixth day. The total dosage by mouth was 180 grains.

Three cases of gonococcal salpingitis were treated with sulfanilamide. One began to vomit on the second day and continued until the sixth day at which time the drug was discontinued. There was no change in the temperature or in the sedimentation rate during the period of drug therapy. In the second case the drug was discontinued for the same reason. No improvement was noted clinically or in the sedimentation rate. The third case on admission had a tender pelvic mass and elevated temperature. In three days the mass was definitely smaller and the tenderness had disappeared. The temperature was normal on the seventh day but the sedimentation rate was still rapid. The patient was discharged on the fifteenth day with some pelvic thickening but no tenderness and a normal sedimentation rate.

One interesting complication occurred in one of our male patients who was admitted with urethritis and epididymitis. Admission routine nose and throat cultures on two successive days were negative. On the twentieth day, after having received 1240 grains

of sulfanilamide, he developed an acute tonsillitis. At that time he was receiving forty grains a day. Throat cultures showed that he had a four plus hemolytic streptococcus. This brings up an interesting question as to the value of the drug in prophylaxis. Long and Bliss¹⁹ state that sulfanilamide may be used as a prophylactic agent against hemolytic streptococcal infections in times of epidemic outbreak and suggest appropriate dosages. Kenny, quoted by Holman and Duff,²³ mentioned two cases that developed tonsillitis while under treatment for bacilluria with sulfanilamide.

Three cases of Type VII Pneumococcal Meningitis with Septicemia have been treated with this preparation in the routine way. Two died very promptly, one in twelve hours and the other in forty-eight hours. The third case lived a few days over two months. On admission this patient received Prontosil intramuscularly for four days, a total dosage of 400 c.c., with no apparent effect. Sulfanilamide was then given daily intraspinally and by mouth. After twelve days of this treatment, as the spinal fluid was still positive, specific antiserum was combined with the intraspinal sulfanilamide. Two days later the spinal fluid cultures were negative. Subsequent cultures were negative. In spite of this apparent improvement in the spinal fluid the patient was clinically failing and began to show signs of a septicemia. This was proved by finding the organism in blood cultures whereas previous blood cultures had been negative. As a last resort two transfusions were given but the patient died shortly after the last one. Autopsy showed adhesions of the meninges with pocketing of the exudate, which may explain the negative spinal fluid findings. There were scattered petechial hemorrhages in the meninges, peritoneum, endocardium and pleura. Thick vegetations completely occluded the mitral valve. The lung showed a right upper lobe pneumonia. This patient, received 5,065 grains of the drug by mouth in two months.

Three cases of influenzal meningitis were treated with sulfanilamide in the routine manner. As two of these cases showed no response to this therapy, antiserum was given as well but the cases terminated in death. The spinal fluid cultures were persistently positive for hemolytic influenzae, the cell counts high and the sugar low. The third patient recovered after a long stay in the hospital. This patient, as soon as the casual agent was determined, received specific antiserum daily intraspinally. Clinically he seemed to improve but the organisms per-

sisted in the spinal fluid. No treatment of any kind was given for one month, with no change in the occasional spinal fluid cultures that were taken. Clinically, however, he continued to improve, so sulfanilamide was started by mouth. For twenty days under this therapy the spinal fluid cultures were still positive. On the twenty-first day, intraspinal sulfanilamide was started. Spinal fluid cultures taken at this time were later reported negative. Daily intraspinal treatment was followed by prompt improvement in the spinal fluid cell count and sugar. All subsequent spinal fluid cultures were negative and the patient was discharged as cured. It was felt, however, that the causal agent was one of low virulence, otherwise the patient would not have lived through the period when no treatment was given. The effectiveness of the drug in this case is problematical.

In the post-abortion group there were two cases in which staphylococcus aureus was the causal agent. Both were running high temperatures and had a foul lochia. The temperatures became normal on the seventh and ninth days. The foul odor disappeared in one week's time but the lochia did not cease until the eleventh day. A third case in this group had hemolytic streptococcus as the causal agent. This patient was not very ill, the temperature never being over 100.4 F. The lochia ceased on the fourteenth day.

Two infants with Pyelitis due to *Escherichia coli* were treated with sulfanilamide. In both cases the urine showed albumen and clumping of white blood cells. One was running a high temperature but in twenty-four hours after drug therapy was instituted it dropped to normal and remained there. The other patient had a normal temperature when the drug was started. Both showed a clearing of the urine with less clumping and a change from acid to alkaline reaction. One was discharged in four days and the other in twenty-four days. The latter had *Escherichia coli* in the urine eight days after sulfanilamide was started.

One patient was admitted for an infection following a self induced abortion. Admission blood cultures showed a streptococcus viridans to be present. Physical examination was essentially negative, so it was felt that the focus of infection was in the uterus; however, cultures of the lochia showed an *Escherichia coli*. She was on sulfanilamide therapy before admission. This was continued with no improvement and the patient died in two days.

One case of staphylococcus aureus meningitis with septicemia was treated with the drug without any effect, for the patient died in less than forty-eight hours. Two cases of tuberculous meningitis were treated with the drug with no improvement. Two cases of whooping cough were treated without any shortening in the length of the paroxysmal stage or in the duration of the disease. One very sick infant with an untyped pneumonia, who on admission had to be put into an oxygen tent, was given the drug. In three days he was out of the oxygen. The temperature returned to normal in seven days.

A case later diagnosed as lymphocytic chorio meningitis is included in this group. The diagnosis was made on the negative spinal fluid cultures and predominance of lymphocytes in the spinal fluid. Admission temperature of 104 F. fell to normal in twenty-four hours. The effectiveness of the drug in this case is questionable because of the rapid recovery without treatment in this type of infection.

Since February 17, 1935, the number of meningococcal meningitis cases admitted to the hospital has been unusually large. From this date until May 14, 1937, a period of approximately two years, seventy-five cases were admitted. These were all treated with antisera or antitoxin with a mortality rate of 42.6%. The group consisted of all types of the disease from mild to severe.

In view of the large number of cases of this infection that were being admitted and since favorable reports had appeared in the literature on the effectiveness of sulfanilamide in this disease, it was decided the drug should be used in all new cases. Our routine was not to be changed in any way except to substitute sulfanilamide for antisera or antitoxin. The dosage used intravenously, subcutaneously, intraspinally or by mouth, has been given in the preceding paper. It probably should be added that intraspinal treatment was given daily, instead of every twelve hours as advised by Schwentker and Long.²⁴ The criteria as to when to stop intraspinal treatment were based upon normal spinal fluid sugar, lowering of spinal fluid cell count or change in character of the cells, negative spinal fluid cultures and clinical improvement.

Routine blood and spinal fluid cultures in ascitic fluid broth were taken on admission except in two cases. Subsequent spinal fluid cultures were limited to incubating the spinal fluid, because the bacteriologist felt that it was a good culture medium.

Since starting this series, seventeen cases have been admitted to the hospital, most of which were

of the mild type. The ages ranged from five months to fifty-six years, the majority being ten years or under. Ten were males; seven females. On admission ten patients had signs of septicemia. The evidence was petechial or ecchymotic spots present in the skin and in the conjunctivae. Only one positive blood culture was obtained although all flasks were incubated for eight days before being called sterile.

Three cases in the series died within a few hours after admission; one before any treatment could be given, another in one and a half hours, and the third in six hours. The mortality rate was 17.6%. In comparing this rate with that of the other series one sees that there has been a marked reduction over those treated with specific antisera, although in neither series has the mortality rate been corrected. The fact that sulfanilamide solution is not irritating to the meninges aids materially, in that now the cell count is of some value in following the progress of the disease, whereas with the antisera, because of their irritating action, the cell count was apt to mislead one into giving further treatment.

It is interesting to note that with one exception, after the first intraspinal sulfanilamide, all subsequent spinal fluid cultures, on being incubated overnight, were negative for meningococcus. A case which illustrates this point very well is that of a fifty-six year old female, who was the first case to receive sulfanilamide for the treatment of meningococcal meningitis. Previous to this therapy she had received daily intraspinal antiserum with no apparent effect, as the organisms were easily found in the spinal fluid sediment. She had also received on admission 120 c.c. of the antiserum intravenously. On her seventh day she received her first sulfanilamide intraspinally and by mouth. The next day's spinal fluid was negative for meningococcus and remained negative thereafter. This agrees with the results obtained by Schwentker²⁴ et al and more recently with L. J. Willien.²⁵ Thinking that possibly the presence of sulfanilamide in the spinal fluid might be exerting a bacteriostatic action during this incubation period, several spinal fluids were centrifuged and ascitic broth poured upon the sediment. These cultures after being incubated for seventy-two hours remained sterile.

No complications occurred and there were no relapses. One patient was a carrier whose condition was not influenced by the drug. He finally had negative nasopharyngeal cultures after tonsillectomy and adenoidectomy were done.

The average number of intraspinal treatments given was five; however, it was thought that more were given than necessary. No cases have been treated by subcutaneous and oral therapy alone as Willien²⁵ recently did in three of his cases.

It was felt in the very toxic cases, since sulfanilamide does not relieve toxicity as quickly as antitoxin, as was our experience in scarlet fever, it would be better to use on admission both antitoxin and sulfanilamide intravenously and sulfanilamide intraspinally. Branham and Rosenthal²⁶ found that serum and drug operate through different mechanisms and that the best results in the therapy of meningococcal meningitis would be obtained by employing both forms of treatment. They felt that a synergistic action existed between the two. Possibly, by this combined form of treatment, the mortality rate may be lowered still further. However, no form of therapy will save the fulminating cases, in which death usually occurs in a few hours from circulatory collapse.

Because of these good results, all new cases of meningitis on admission are put on sulfanilamide therapy until the causal agent has been identified.

Comments: From the results obtained in this small series of cases of gonococcal infection with urethral discharge, we can not help feeling that the drug has not lived up to expectations. The results do not agree very well with those reported in the literature. The results in the treatment of arthritis are encouraging. The drug seems to have a definite place in this type of complication. Those cases of vaginitis which had no involvement of the cervix did well but in our experience did not improve more rapidly than with other types of treatment. While one remarkable result in conjunctivitis impresses one favorably our series is too small to draw any definite conclusions. More such infections should be treated with this preparation. The drug has a definite place in the treatment of meningococcal meningitis as is shown by the rapid disappearance of the organisms from the spinal fluid, the quick recovery of the patients and the definite lowering of the mortality rate. The possibility of serum reactions or irritative meningitis is eliminated when this preparation is used. However, when toxicity is marked, the best treatment probably is the early combination of the antitoxin and sulfanilamide. No conclusions can be drawn at the present time for the remaining infections, because they are too few in number.

REFERENCES

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17. Long, P. H., and Bliss, E. A.: Para-aminobenzene-sulfonamide and its derivatives. Clinical observations on their use in the treatment of infections due to beta-hemolytic streptococci. Arch. Surg. 34:351-359, 1937.
18. Marshall, E. K., Jr., Emerson, K., Jr., and Cutting, W. C.: Para-aminobenzenesulfonamide; absorption and excretion; method of determination in urine and blood. J. A. M. A. 108:953-957, 1937.
19. Long, P. H., and Bliss, E. A.: The use of para-aminobenzenesulfonamide (sulfanilamide) or its derivatives in the treatment of infections due to beta-hemolytic streptococci, pneumococci, and meningococci. South. Med. J. 30:479-487, 1937.
20. Nightingale, L. M., and Starr, S.: The treatment of erysipelas in children. J. A. M. A. 102:761, 1934.
21. Symmers, D., and Lewis, K. M.: The antitoxin treatment of erysipelas. J. A. M. A. 99:1082, 1932.
22. Schwentker, F. F.; Clason, F. P.; Morgan, W. A.; Lindsay, J. W., and Long, P. H.: The use of para-aminobenzene-sulphonamide or its derivatives in the treatment of beta haemolytic streptococcal meningitis. Bull. Johns Hopkins Hosp. 60:297-306, 1937.
23. Holman, W. L., and Duff, G. L.: Sulfanilamide and similar compounds in chemotherapy. Am. J. Med. Sciences 195:379-414, 1938.
24. Schwentker, F. F.; Gelman, S., and Long, P. H.: The treatment of meningococcal meningitis with sulfanilamide. J. A. M. A. 108:1407-1408, 1937.
25. Williere, L. J.: Sulfanilimide therapy in meningococcal meningitis. J. A. M. A. 110:630-632, 1938.
26. Branham, S. E., and Rosenthal, S. M.: Experiments with combined sulfanilamide and serum therapy. Pub. Health Rep. 52:685-695, 1937.

THE NASAL AIRWAYS

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This paper on the general subject of dental deformity is given from the standpoint of the rhinologist. "Shut Your Mouth" I felt, was an impolite title; although I have a book written in 1869 by George Catline, whose title *Breath of Life* is quite obscured by the large white lettered subtitle *Shut Your Mouth*. The author devoted the greater part of his life to visiting and studying some 150 different native races in North and South America. In this little book he makes an ardent plea for training children to breathe through their noses. Illustrated by striking line drawings, the author contrasts the civilized Englishman of that period with the uncivilized Indian. I quote—

"Civilized man may properly be said to be an *open mouthed* animal; a wild man is not. An Indian warrior sleeps and hunts with his mouth shut; and

with seeming reluctance, opens it even to eat or to speak. An Indian child is not allowed to sleep with its mouth open from the first sleep of its existence; the consequence of which is, that while the teeth are forming and making their first appearance they *meet* (and constantly *feel*) each other; and taking their relative natural positions, form that healthful and pleasing regularity which has secured to the American Indians, as a Race, perhaps the most manly and beautiful mouths in the world." Further, in regard to those children who have become habitual mouth breathers "the nasal ducts, being vacated, like vacated roads that grow up to grass and weeds, become the seat of polypus and other diseases." And he later states, "in all these instances there is a derangement and deformity of the teeth and disfigurement of the mouth, and the *whole face*, which are not natural, carrying the proof of a long practice of the baneful habit, with its lasting consequences; and producing that unfortunate and pitiable, and oftentimes disgusting expression which none but civilized communities can present."

With these quotations as my text, I shall first briefly review the anatomy and development of the nasal cavities and the nasopharynx. The nasal cavities and the nasopharynx will be considered together as making up the nasal airways. Secondly, I shall enumerate the physiologic functions of these areas, and lastly, emphasize the importance to the individual of the loss of normal physiologic function of one or both nasal air passages.

The nasal airways begin in front with two more or less attractive openings and extend backward for some two inches. Here openings twice as large as the anterior ones facilitate the entrance of air into the nasopharynx. In the nasopharynx the inspired air turns a corner and leaves the nasal airways to pass downward behind the soft palate, behind the base of the tongue, crossing the alimentary tract, to enter the larynx, and then the trachea, bronchi, and lungs.

The anterior openings to the airways are nearly horizontal in position, while the posterior openings are nearly vertical. We have lost control over our anterior nares and most of us can move them but slightly. Certain of the lower mammals, seals for example, can shut their exterior nares completely. We can expand and contract ours a little and with some effort. Through the open horizontal anterior nares then, air currents enter our nose perforce in an upward direction. The hairs just inside the entrance act as strainers for the inspired air.

Assistant in Laryngology, Harvard Medical School.

Read before the Rhode Island Medical Society, at the one hundred and twenty-seventh Annual Meeting, Providence, June 1-2, 1938.

The normal nasal cavities are very narrow, slit-like passageways. The floor of each nasal chamber is formed by the hard palate. The average floor is two inches long but less than three-eighths of an inch wide. The height of the nasal cavity equals its length, the vertical measurement being at least two inches. But the width of either nasal chamber at the upper part averages between one-sixteenth and one-eighth of an inch. Furthermore each nasal chamber is narrowed by the turbinates on its lateral walls. There are three or four turbinates on each side. These run almost the entire length of the nasal cavity and bulging mesially, they nearly touch the septum. Indeed, they fill up 80 to 90% of each nasal cavity.

The septum separates the two nasal cavities from each other. Only rarely do we have a straight thin septum. From the time of our birth the nose receives much more trauma than is commonly realized and resulting septal irregularities are the rule. For the most part these deviations are slight. Any septal deviation or bending to one side is usually compensated for by a deviation to the opposite side. In a narrow nose even slight deviations cause partial nasal obstruction on each side. In any nose, however wide its architecture, severe septal deviations interfere with the airways on one or both sides.

The septum, the floor, the turbinates, the spaces between, and the sinuses leading from these meatuses, all are lined with a ciliated mucous membrane. Over the mid portion of the septum, and especially over the middle turbinates, this mucous membrane lining is very thick. It rests on a sub-mucosa richly supplied with blood vessels containing blood lakes. Like other erectile tissues, engorgement here is a normal physiological process. While there is sufficient room for a normal degree of engorgement, pathological or excessive engorgement obstructs the airway.

Posteriorly the adult choanae are one inch high and one-half inch wide. They are completely surrounded by bone and hence maintain at all times free communication of the nasopharynx with the outer world via the nasal passageways. This fact is one of the utmost importance to our ears. The Eustachian tubes connect each middle ear with the nasopharynx. It is by this tube that the air pressure in the middle ear is kept equal to the external air pressure. Also, of course the Eustachian tubes drain

and ventilate the middle ears. From the roof and back wall of the nasopharynx, between the openings of the Eustachian tubes, there hangs a mass of lymphoid tissue known as the adenoid or pharyngeal tonsil. The average size of the nasopharynx in the adult is one inch high, one inch wide, and one inch deep. In the adult then, it takes a rather large mass of tissue to fill this cavity and thereby block off the airway. While the anterior entrances to the nasopharynx, the two posterior choanae are always open, the lower opening to the nasopharynx is sometimes open and sometimes closed. The soft palate acts as a door and closes the nasopharynx and nasal airways each time we swallow. Of course this soft palate door is below the level of the Eustachian tube orifices and, as the act of swallowing opens these tubes, air pressure equalization is efficient.

At birth the nasal airways and their associated structures are extremely small. During the first two decades of life, growth takes place and is particularly related to the growth of the teeth. Growth never occurs at a uniform pace. During some years it is almost violent in its rapidity but after puberty, growth slows down and after the age of twenty-five we do not notice any increase in the size of the sinuses. The external nose at birth is about one-third its adult size. The nasal chambers more than double their height and width. The septum and turbinates, likewise, have to more than double their birth size. Between the turbinates small outpouchings, formed in the third and fourth months of foetal life, continue to expand for the next twenty to twenty-five years, developing into the accessory nasal sinuses. This growth does not occur steadily but periodically, by leaps and bounds. With the descent of the second teeth, which in early childhood fill up a large part of the superior maxilla, there comes a marked increase in the vertical height of the face and of the nose. Slight variations from the normal produce marked changes as development goes on. For example, if one of the upper central permanent incisor teeth does not descend along with its mate we have a bump persisting on one side of the anterior floor of the nose. This area is in contact with the lower anterior part of the nasal septum. Curiously enough, this part of the septum is prone to act as a rudder and controls the course of the growth of the remainder of the septum. If this rudder be thrown even slightly to one side or the other, the result is liable to be a subsequent deviation of the septum.

In a similar fashion proper descent of the second teeth have a far reaching effect on the development of the maxillary sinuses and thereby on the symmetry of facial development. The face is not only built for the teeth, it is built by them.

The nasopharynx, like the nose, undergoes tremendous increase in size during the first two decades of life. At birth the nasopharynx is a horizontal space one-eighth inch high, one-fourth inch wide, and one-fourth to one-half inch long. It grows in an upright fashion to become a large chamber. Its adult size is too often unappreciated. In the first two or three years of life, when the nasopharynx is still very small, a slight amount of enlargement of the adenoidal tissue easily blocks the nasopharynx. A head cold, for example, will cause sufficient swelling and engorgement of the adenoid to block the nasopharynx completely. With repeated colds, resulting hypertrophy causes chronic obstruction. Normal nasal respiration is prevented.

Now I shall speak of the importance of the patency of the airways. The nose does much for us. It acts as an air warmer, humidifier, dust catcher, germ trapper, voice resonator, a sinus drainer, and an air pressure equalizer. But all these roles and others I have not mentioned are of secondary importance. The primary function of the nose is of course olfaction. We are not concerned today with the sense of smell however, but with these secondary respiratory functions. The currents of air which enter the nose pursue an upward curved course above and below the various turbinates. The great vascularity of the nasal mucous membrane and the secretion of the mucous glands in the membrane are prime factors in supplying heat and moisture to the inspired air. By the time the air has reached the larynx it is normally warmed to blood temperature and laden with moisture. The erectile tissue over the turbinates is active and undergoes engorgement whenever the environmental air is dry, in order to provide the necessary moisture. Cold air must be warmed, hence engorgement is necessary. Warm humid air causes least activity of the erectile tissue. It is well to remember that during twenty-four hours your nose normally excretes somewhere between a pint and two quarts of water into the air that you breathe.

The normal nose acts as a filter for dust and bacteria. The mucus that is periodically secreted by the lining membrane of the nose forms a mucous sheet which protects the nasal structures. This

mucous sheet is constantly being wafted back to the nasopharynx by the action of the cilia of the nasal lining. Dust and bacteria that have filtered through the vibrissae are deposited on the mucous sheet, carried back into the nasopharynx, and swallowed. Phagocytic activity takes care of bacteria that penetrate the sheet. Sinuses in a state of health contain almost no secretion and are fairly free from bacteria. Recent work indicates that nasal secretion itself has considerable bactericidal property.

Normal nasal physiology is disturbed whenever the nose becomes obstructed so that air may not be freely inhaled and exhaled. Mouth breathing becomes necessary; the various physiological functions of the nose are lost. A transient episode of mouth breathing for a day or two, or for a week or two, does little harm, in adults or children. In the young child, unfortunately this may start the habit of breathing through the mouth. With persistence of this habit the sequelae with which we are all familiar develop; frequent head colds, sinus disease, deafness and ear diseases, dental deformities, speech disorders, lower respiratory tract complications. Following the establishment of the habit of mouth breathing, the upper dental arch is no longer held apart by the tongue. The splinting influence of the tongue upon the hard palate loses its effectiveness. The upper lip sags on the sides, the whole arch narrows, while the front teeth protrude. The lower jaw is out of touch with the upper jaw and malocclusion results. Unless corrected, this bony deformity persists through life and satisfactory nasal respiration is unlikely ever to be enjoyed.

Obstruction of the nasal airways may be acute and of short duration as in a simple cold, or it may be persistent. Chronic nasal obstruction has many causes. It may be due to a badly deviated septum. Mild septal deformity is most commonly due to abnormal growth; severe septal deformity is usually due to trauma. Again, enlargement of the turbinates may obstruct the airways as in chronic sinus disease, and chronic sinus disease in children often escapes attention. When this is of long duration, especially in an allergic type of individual, polypi often form. These can fill the entire nasal cavity and protrude from each end. Vasomotor rhinitis and other allergic conditions are common in the nose. The rhinologist recognizes and treats these and other disorders with satisfactory results both in children and in adults. In the majority of cases he can restore normal nasal physiology.

At times the anterior nares are the seat of nasal obstruction. Alar collapse, so-called, is more frequently seen in adults than in children. It is found in children with marked deformities of the hard palate. In the adult and in the child reeducation of breathing is necessary. After the cause is removed they must be taught to breathe less violently in order not to collapse the alae with each inspiration. Gradually normal alar function is restored. Congenital deformities of the anterior or posterior openings of the nose are infrequently met with. But they do occur and are fussy to deal with. In any case where there is marked difficulty in breathing through one or both sides of the nose the rhinologist is always on the watch for congenital malformations. Of course, tumors, benign and neoplastic, are also found occasionally, in both adults and children, to be the cause of nasal obstruction.

As you all know, the chief cause of nasal obstruction in children is hypertrophied adenoids. Such a child is addicted to mouth breathing, subject to frequent head colds, often having ear trouble, below normal as regards weight and size, developing an adenoidal facies:—with the removal of the adenoids all these symptoms are supposed to be alleviated. However, the rhinologist often finds that the removal of the adenoids alone does not cure his patient. When it does cure such a person the operation has been done early in life before the sequelae of bony and dental deformity have developed. I think that it is not fair, when adenoid removal has failed to cure mouth breathing, merely to dismiss the child and tell the parents that *they* must break the habit of mouth breathing. It is fair to do this *only* when all other causes of mouth breathing have been carefully ruled out.

It is the doctor's duty to recognize dental deformity and to insist that such children go to an orthodontist for advice. The orthodontist uses as his great assistant normal growth. Only in cases where marked deformity will result does he modify natural growth forces by means of the application of slight but persistent force in a desired direction. The orthodontist, in his correction of dental deformity, demands that his patient have a normally functioning airway. It does not avail him much to apply bands, secure good position, and then find that the child, because of obstruction to his nasal airways, persists in the habit of mouth breathing and undoes all that the orthodontist has corrected.

In my work at The Harvard Dental School these

past few years I have noted that by modifying the position and shape of the upper dental arch the orthodontist at times produces effects in the nasal cavities. Deviated septums are not straightened and sinus disease is not cured by the orthodontist. But in certain types of cases the nasal airways are definitely widened. This was first proven by Dr. George Wright in 1911 when he devised an apparatus which enabled him to measure the width of the nasal cavity and keep track of any changes in the width of the nose as he widened the hard palate, which is also the floor of the nose. I quote from Dr. Wright, "All of these cases, thirty or more, show some nasal deformity coincident with a dental irregularity. They all show a change in the width of the superior maxillary bones measured between the antral walls below the turbinates, as recorded before and after regulation respectively. They all show improvement, some slightly and others in a marked degree in intranasal respiration after maxillary readjustment and in consequence enjoy a better nasal sanitation, ventilation, and drainage, better nasal respiration and greater freedom from head colds. The factor of restored facial symmetry must not be lost sight of, although personally I am most inclined to emphasize first, the importance of the normal function of the mouth and nose, believing that when this is secured all other beauty and harmony will inevitably follow."

The orthodontist then, by widening the nasal cavities, alleviates nasal obstruction in those cases with a mildly deviated septum in a very narrow nose situated above a high narrow hard palate.

What I have been trying to say up to now is that adenoids alone are not always responsible for nasal obstruction and that the rhinologist has competent means of treating nasal obstruction due to sundry causes. The co-operation of the allergist, internist, and orthodontist is necessary. And in conclusion I feel that in order to prevent dental deformities and other sequelae it is imperative that obstruction, acute or chronic, in one or both nasal airways, be recognized and treated as early in life as it occurs. Adenoids should always be removed in the first few years of life if they become obstructive. Allergic nasal conditions, deviated septa, chronic sinus disease likewise demand early treatment. When it has been thoroughly demonstrated that a mouth breather has adequate nasal airways and satisfactory dental occlusion, then, and then only, is it fair to spend time and energy in re-educating him in the art of breathing through his nose.



THE RHODE ISLAND MEDICAL JOURNAL

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IS IT RIGHT OR MIGHT?

Already the question of group health plans has become the subject for fruitless politico-legal squabbling. The opposition, consisting chiefly of organized medicine as at present constituted, raising the cry of unethical and impractical, punishes the participating doctors by discharge from the organization and by refusal of hospital facilities,—all this with hardly fair trial of the plan or of the participants. The supporters retaliate with cries of monopolistic practices and restraint of trade on the part of organized medicine. This gives our barrister brethren the opportunity to holloa their eloquence in trying to determine whether medical services can be considered as articles of trade or medical societies as monopolies and thereby subject to the laws governing said trade and monopolies. Whether or not the system would be advantageous enters little into the discussion. The nature of the controversy seems to signify nothing except that if my big brother can lick your big brother, my views will rule whether or not they are useless. Perhaps if those big fighting brothers went to Europe they could serve to advantage.

HOSPITAL ANESTHETIST

One of our patients has recently returned from a hospital in a neighboring state, to which he had gone to have a hernia repaired. As the surgeon had formed no opinion as to the relative value and safety of the different anesthetics, the patient was asked to choose the anesthetic which he preferred. He was flattered by this evidence of confidence in his own judgment and approved the hospital which had available a number of different anesthetics and which allowed him to choose the one best fitted to his particular case. As he did not care to remain conscious and witness his own operation he favored general anesthesia rather than a spinal or local anesthetic. From the list of general anesthetics he chose ether as the least experimental and best tested agent. The ether was administered by a nurse, without apparent supervision. As the patient recovered without complications we must conclude that the anesthesia was well done. On leaving the hospital the patient paid a bill of ten dollars for anesthesia, which seemed a reasonable charge. Of the ten dollars, thirty cents went toward the nurse's salary, leaving a considerable profit for the hospital. So everyone was satisfied.

But the outcome for the patient is not always so fortunate. While anesthetic fatalities are rarely reported, study of the daily papers, of vital statistics and of medico-legal reports indicate that fatalities do occur as the result of incompetent anesthesia. In the recent edition of Crossen's "Operative Gynecology," we find "For example, it is evident to any experienced observer that the administration of ether, today, in general, falls far short of the skill and efficiency of former years, both in safety to the patient and in comfort to her."

For many years, because of lack of time in the four-year course, medical schools have neglected to provide any instruction in the theory and practice of anesthesia. Hospitals and clinics have entrusted the administration of anesthetics to nurses, stenographers and other technicians as the most economical and least bothersome arrangement. In apology it was claimed that the surgeon could supervise the anesthesia. But it soon happened that the surgeon was entirely ignorant of the work which he was required to supervise. As an intern he had completed his hospital term and entered practice without theoretical instruction and without ever having given a single anesthetic.

In Rhode Island, during the same period of time, none of the graduates of our leading hospitals have been thrust out on the community without considerable practical training in anesthesia. Realizing that nurses administer anesthetics well and that nurse anesthesia is to the economic advantage of the hospitals, the argument which has persuaded hospital management to continue the anesthetic training of interns is that this training is essential for the best work of the surgeon himself. However perfect his surgical technique may be, without knowledge and experience in anesthesia he is not perfectly fitted to carry on surgical work. The majority of the physicians of Rhode Island are competent anesthetists. Most of the surgeons have the advantage of training and practical experience with anesthetics.

With the advent of group hospitalization, the question of the conduct of anesthesia comes up for discussion. In Rhode Island we must not follow the example of less fortunate communities where the welfare of patients, present and future, has long been sacrificed to the present economic benefit of the hospitals. If "the relation of the physicians of the hospitals of Rhode Island to the insurance system be properly and adequately coordinated," as provided in Dr. Gerber's motion, adopted by the House of Delegates of the State Society at the September meeting, our anesthetic situation may be maintained in its present comparatively satisfactory condition.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next examinations (written and review of case histories) for Group B candidates will be held in various cities of the United States and Canada on Saturday, November 5, 1938, at 2:00 P. M., and on Saturday, February 4, 1939. Application for admission to the written examination scheduled for February 4, 1939, must be filed on an official application form in the office of the Secretary at least sixty days prior to this date (or before December 4, 1938). The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in St. Louis, Mo., immediately prior to the annual meeting of the American Medical Association in June, 1939. Application for admission to Group A examinations must be on file in the Secretary's office before April 1, 1939. For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Bldg., Pittsburgh (6) Pa.

RHODE ISLAND MEDICAL SOCIETY

Meeting of the Council

A stated meeting of the Council of the Rhode Island Medical Society was held at the Medical Library, Thursday, September 15, 1938. Present:—Drs. Holt, Mowry, Rocheleau, Gauthier, Wheaton, A. T. Jones, Partridge, Miller. The meeting was called to order at 4:00 P. M. by the First Vice-president, Dr. Charles H. Holt. In the absence of the Secretary, Dr. Albert H. Miller was appointed Secretary *pro-tem*.

The minutes of the last meeting of the Council were read and approved. On motion by Dr. Mowry, the action of the First Vice-president in appointing Dr. Roland Hammond as delegate to the special meeting of the House of Delegates of the American Medical Association was approved. On motion of Dr. Mowry, it was voted to recommend to the House of Delegates that Dr. Charles Bradley be appointed Chairman of the Committee on Exhibits to fill the term of the late Dr. Skelton. Dr. Holt suggested that the Medical Library Building be open on certain evenings. It was voted to refer this matter to an open meeting of the Society.

The meeting was adjourned at 4:25 P. M.

Respectfully submitted,

ALBERT H. MILLER, M.D.,
Secretary pro-tem.

Meeting of the House of Delegates

A stated meeting of the House of Delegates of the Rhode Island Medical Society was held at the Medical Library on Thursday, September 15, 1938. Present:—Drs. Holt, Mowry, Rocheleau, Gauthier, Wheaton, Partridge, Miller, Beardsley, Muncy, Meyer Saklad, Gormly, Collom, Hayward, Henry, Dimmitt, Eddy, G. Raymond Fox. The meeting was called to order by the First Vice-president, Dr. Charles H. Holt, at 4:50 P. M. In the absence of the Secretary, Dr. Albert H. Miller was appointed Secretary *pro-tem*.

The minutes of the last meeting of the House of Delegates was read and approved. The minutes of the Council were read and approved. The appointment of Dr. Roland Hammond as Delegate to the special meeting of the House of Delegates of the American Medical Association was approved. On motion of Dr. Dimmitt, the appointment of Dr. Charles Bradley as Chairman of the Committee on Exhibits was approved.

The following motion, introduced by Dr. I. Gerber and referred from the June meeting of the Society, was read by the Secretary pro-tem:—

"Dr. Gerber moves that the House of Delegates be instructed to study in detail the matter of starting a system of Group Hospitalization Insurance in this state; that it be empowered to confer with the already existing committee of superintendents and trustees of the various Rhode Island hospitals now considering the establishment of such insurance; that it take steps to see that the relations of the physicians of the state of Rhode Island to the insurance system be properly and adequately coordinated; and finally that the results of such study and conference be transmitted to the members of the Rhode Island Medical Society before the end of this calendar year, either by a special meeting or by appropriate reference to the various constituent county societies."

On motion of Dr. Saklad, Dr. Gerber's motion was approved by the House of Delegates and the President was instructed to appoint a committee of as many members as he sees fit, to carry out the provisions of the motion.

The following resolution, presented by Dr. George W. Waterman and referred from the June meeting of the Society, was read by the Secretary pro-tem:—

"Whereas it has been brought to our attention by the Cancer Committee of the Rhode Island Medical Society that certain resolutions were passed by the Conference of State and Territorial Health Officers with Surgeon General Parran on April 11th, 1938, having to do with the cancer problem; and

"Whereas in these resolutions recommendations were made calling for the passage of a State Cancer Law for each State, establishing within the Department of Health a division of Cancer Control; the function of this division to include training of physicians in the early diagnosis and treatment of cancer; the dissemination of knowledge to the Public concerning necessity for early diagnosis and treatment; and the promotion with the co-operation of the medical profession of the establishment of adequate cancer clinics, treatment centers and free diagnostic service; and the recommendation that State aid for the treatment of cancer be provided and

"Whereas we believe that in the State of Rhode Island the field of cancer control is now in process of being satisfactorily covered by already existing

or proposed diagnostic and treatment centers; likewise the field of professional education has been satisfactorily handled through the Rhode Island Medical Society including its Cancer Committee; and the field of lay education is being well developed under the guidance of the Rhode Island Unit of the Women's Field Army of the American Society for the Control of Cancer; therefore

"Be it Resolved that the Rhode Island Medical Society declares itself as opposed to the above resolutions advanced at the Conference of the State and Territorial Health Officers; that it feels that the campaign against cancer is now being handled properly in the State of Rhode Island, both from the point of view of actual medical attack as well as professional and lay education; that it further believes that the promulgation of the ideas advanced at the above conference can only lead to unnecessary duplication of work with consequent waste of time, money and effort; and that it further instructs its delegate to the annual meeting of the American Medical Association to present the sentiment of this resolution to the National House of Delegates for their consideration and possible action."

On motion of Dr. Partridge, this resolution was adopted by the House of Delegates.

The meeting was adjourned at 5:50 P. M.

Respectfully submitted,

ALBERT H. MILLER, M.D.,
Secretary pro-tem.

PROVIDENCE MEDICAL ASSOCIATION

Minutes of the June Meeting

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Alex. M. Burgess, on Monday, June 6, 1938, at 8:40 P. M.

The minutes of the last meeting were read and approved. The Secretary read a communication from Dr. Wells, Secretary of the Rhode Island Medical Society, regarding a medical survey of the Providence District to be carried out in accordance with a plan prepared by the American Medical Association. After explanatory remarks by the President and on motion by Dr. Chafee, it was voted that the President appoint a committee to carry out such a survey.

Their applications having been approved by the Standing Committee, the following were elected to

membership: Benedict Chapas, Edward V. Hefernan, Thomas A. Martin, Gordon E. Menzies, Kenneth T. Moore, Robert Penington, Francis E. Temple, Robert J. Williams.

The Secretary reported for the Standing Committee that at its last meeting this Committee voted to recommend to the Association that the President appoint a committee to study and report on the matter of group hospitalization. It was voted that the President appoint a committee of four to study this subject and report to the Association. The President announced the following appointments to this committee: Doctors Henry S. Joyce, Chairman, Elihu S. Wing, Eric P. Stone, and J. E. Greenstein.

The Secretary reported for the Standing Committee that at its last meeting this Committee voted to recommend to the Association that the President be requested to appoint a committee to study and report on proper methods of furthering the work of examination for tuberculosis amongst food handlers, nurse-maids, industrial workers. It was voted that the President appoint a committee of five to carry out this work. The President announced the appointment of the following committee: Dr. Philip Batchelder, Chairman, Drs. U. E. Zambarano, William P. Buffum, Joseph Smith, and Francis H. Chafee.

Dr. William S. Streker reported for a subcommittee of the Standing Committee on the employment of an executive secretary. Dr. Streker reviewed the events leading up to the fulfillment and completion of this project and introduced Mr. John E. Farrell, the new executive secretary, who made a few remarks to the Association.

An obituary of Dr. Charles H. Leonard was read by Dr. Peter Pineo Chase and an obituary of Dr. Louis Chapman was read by Dr. Charles E. Hawkes. It was voted to spread copies of these obituaries on the records of the Association and to send copies to the families and to the RHODE ISLAND MEDICAL JOURNAL.

Dr. Louis Goodman, Pathologist at the State Hospital, presented a specimen of pseudo myxoma peritonei.

First paper of the evening was by Drs. William P. Buffum and Stanley S. Freedman, and was entitled "The Diagnosis and Treatment of Household Dust Sensitivity in Bronchial Asthma of Children." The second paper of the evening was read by Dr. Henry N. Pratt, Assistant Physician to the Children's Hospital of Boston, and was entitled

"Seasonal Aspects of Asthma and Hay Fever with Special Reference to a Recent Study of Molds." The papers were discussed by Drs. Bates, Chafee, Ham, and Riley.

The meeting adjourned at 10:55 P. M. Attendance, 92. Collation was served.

Respectfully submitted,

HERMAN A. LAWSON, M.D., *Secretary*

Rhode Island Hospital

THE HURRICANE

From a Nurse's Diary

Wednesday, September 21

Not one of us dreamed, when greeted by more rain this morning, that our complaints about the wet weather were soon to be completely stilled in awe of nature's savagery. To begin the day our feathers were damp and our spirits ruffled by a crowded "board." The students were relatively new, everyone tried to work at once, and noon found us still going strong. Piles of gloves, unfinished cases, an encephelogram to be done, and outside the storm had continued increasing after a futile bright moment about noon.

"It's going to be a bad storm"—"things are blowing around"—"awful windy out"—these fragments of conversation drifted in as we hurried to catch up with the fleeting moments. By 3 o'clock the wind was blowing in earnest, the trees were bent low by its fury, loose articles were snatched and hurled through the air. The dirt drifted through closed windows under the force of the wind.

"Good day to go up in the tower," we joked.

Soon we noticed gray, black objects flying by. "Imagine they are birds or pieces of paper."—"No; shingles!" someone said, looking at the roof above the staff room. "It can't be!"—(Well, it was.) Who would think that the roof over the staff room would lose its shingles? "Afraid the doctors' suits will be damp if the roof comes off." We laughed, for it seemed absurd. Too little did we realize how soon this absurdity would be reality. The heavy slate shingles were wrenched off and appeared to be birds flying away, so swift was their course.

While we were mending a mountain of gloves, and watching our departing shingles, the 3:30 people joined us. (Those who had been out were literally blown back.) The "boss" was preparing to go off for the remainder of her afternoon. (She'd forgotten it was her P. M. and had returned.) Then the fury of the gale broke and altered everyone's plans; the "boss" forgot there was any such thing as an afternoon, and were we glad many times over that she had accidentally come back, for a crash heralded the triumphant invasion of rain and wind.

The rending of glass sent us out of the supply room to find the skylight smashed in above the dental room door—wind tearing furiously at the roof—

shortly after, the hatch gave way leaving an opening to the sky—rain and wind pouring in—large sheets of corrugated iron flipping back over the etherizing room windows as they were wrenched off of the roof.

Paging Mr. Fowler! Paging Dr. Rice! News that a cable in the yard was down injuring three men. Trees down outside the J. B. M. Branches tearing off of our trees as we watched them.

Dr. Rice and Mr. Fowler up inspecting the wreckage,—the swaying towers, the falling trees. Calling the fire department for aid. Calls that couldn't go through. The telephone lines were down.

"Sweep up that trash," Dr. Rice said of the shattered skylight. (The "boss's" reply we fear is lost to posterity. It was something about getting out from underneath ere the remaining glass fell and fractured his skull.) The trash was swept up—while more tumbled down. During the wild, straining, roaring of the wind, we held our breath—waiting for, dreading the next crash that would precede the shattering of glass.

By this time everyone forgot about going off duty. The gloves were finished as the skylight above the new elevator started to rain down. We carried our gas tanks to safer quarters just before the remaining glass poured in, during a furious burst of wind.

The ambulance bells rang wildly. Accident cases began coming in. The stairway and elevator at the south end were too dangerous to use. Meanwhile doctors were at a premium, telephone wires were dead, visiting men could not be reached, house officers of all services turned to the task of repairing torn, bruised, bleeding humanity.

Two patients in almost every room for we dared not use Room 1; that skylight had started to go. The windows and skylights of the rest of the rooms in which the doctors worked were threatened every minute by the tearing winds and the debris flung about by the gale. Dr. Bowen, who finally got in despite the storm, was forced to dash from the staff room while in the process of dressing, dodging flying glass as the windows gave way. We tried to close the fire doors against the storm. With the wind, glass and rain pouring in, holding onto the edge above the floor, we wedged the doors closed with sandbags, trees and arm boards.

The crescendo of the storm waxed furiously. It hardly seemed that the wind could blow harder—but it did. Room 1's window was in, the skylight broken in two places. The sterile goods had to be moved out. We would need them, heaven knows! As we gathered our breath to dash in before the next roaring attack of wind, the boys were ahead of us. Tom, Henry, Carl, Ray—moving out the big lights, the cans, dodging flying glass to save our needed equipment.

In the midst of this the "boss" was gone—gone to the supply closet to bring down extra supplies. Supplies for the "train wreck" which we had long laughed about, now to be sterilized for a more

serious menace, a wide-spread disaster. She had gone to the most dangerous part of our shivering, swaying, crippled operating room. But she and the supplies, with Dr. Bell's and Carl's assistance, arrived back safely. Our main corridor from the doors up was lined with gas tanks, supplies from Room 1, goods to be done up, sterile goods. The autoclaves were going full tilt.

Then the dreaded sterilizing room and scrub room windows gave way beneath the pelting of slate which slashed through the screens; and with the glass flying in, we covered the sterile goods with rubber sheets and aprons. The autoclaves went in, the sterilizers were filled and emptied. Even the oil sterilizer had to be used (you stood as close to the sink as possible) and while the cover was up you wondered for a brief second what might fly in. No one had much time though to worry about the glass which was being flung in and no one will know why it hit none of us, nor why the slate, which smashed through the supply room screens, did not break these windows in upon us as we did up the supplies of sheets and towels.

Many people came up to help us, threaded sutures, made supplies; unexciting tasks perhaps, but oh so important, and as dangerous as any with the treacherous windows apt to blow in. Everyone of the rest was busy running, cleaning up, setting up and trying to keep everyone supplied. Heaven will be a place where operating room nurses have roller skates with floating power, three extra hands (an always sterile forceps in one)—it will have a cornerstone to the "gang" who belonged and one to the "gang" who assisted during the "blow."

The bravery of the patients was astounding, little or no anaesthesia was used for the most part. Perhaps the stunning fury of the storm had dimmed the pain. The fright of what the next blast might bring may have caused patients to forget their battered, painful, broken bodies. Due to a shortage of beds we had an improvised ward in our recovery room until an annex was opened in Dr. Peter's old apartment.

The night people, hearing of our excitement, had come on early and eagerly set to work. Sometime late in the evening we dashed down to the dining room for a bit of supper. The sight that greeted us from the dining room window was frightening, staggering; the grounds had become a jungle of torn, twisted trees, tossed into a heap by the storm.

More accidents, injuries and even abdominal emergencies, for appendices are not respectors of hurricanes; and they were removed amid the howls of the storm.

Sometime late that evening, as some semblance of order returned, those who could went off duty to rest, if rest they could, with the ever increasing tales of horror and suffering which drifted in—the fear of even greater disaster should the storm increase its attack on our weakened damaged buildings. The clocks had stopped at 4:20 P. M., with the

interruption of the A. C. current, and our time from then on was marked by the attacks of the wind.

All night long a steady stream of work poured in, and after midnight the night people carried a terrific load of disasters, lightened though, by the cheerful, cooperative acceptance by the doctors, of the limited facilities.

Thursday, September 22

Dawn came late; a pale, gray gaunt ghost, with the wind blowing hard in a tired fashion as if loathe to stop its cruel torture.

Shortly after 7 A. M. we faced our bedraggled battered operating room and taking stock of its injuries, set about the repair work. Armed with brooms, mops, dust pans, brushes, we swept up cans of roof and glass. Supplies were put back in their places. The crew of workmen covered the gaping windows with tar paper, then started repairs on the torn roofs and skylights.

The destruction inside was great, but replacement was not too difficult to achieve. But what of the repairs and replacements which cannot be made—to those mutilated, uprooted or dying trees we have been able to look out upon. Like lifeless giants they now lie, some across cars they battered beneath them. The foliage of the trees which withstood the gale is curled, withered, and dying, as if overwhelmed by abject misery at the sight which surrounds them. There was no humor, no compassion in the wind which drove heavy slate shingles inches deep into the ground and flung them blocks away.

"Emergency operations only" was the order of the day. Believe it or not some tonsil children came in.

Our autoclaves did double duty. We fortunately had our own power and could sterilize for the hospital where facilities were completely crippled.

There was a returning sense of time and a growing anxiety for friends and relatives. Reports slowly drifted in of the extent of the hurricane and tidal wave; reports by word of mouth or distant radio stations, for there was no local power or telephone communications.

Our gas plate worked (we had to make clips for the six dozen gloves we did up in a hurry last night) but a gas shortage was reported, due to a fire in the gas plant. A two-page *Journal* printed on the presses of the *Woonsocket Call* was eagerly read when Dr. Messinger came up with it.

Accident cases continued to come in through the day. All efforts now are bent upon repair and it will be a job fraught with hazards and danger.

Crawford Allen had to be moved up today. Our friend who breaks his cast every time he has to go to the Allen will no longer have to worry.

Friday, September 23

Working now on a more normal schedule. Men still getting up and down into the towers and tiptoeing through the plaster and dental rooms. They get lost trying to find the door to the attic every once in a while. Brave as these men are at their job

atop the roof, they quail at the sight of our operations and hold their noses at the smell of ether.

The tar paper over the "inner sanctum" of the nurses' room is the subject of some discussion. Do you suppose they will decide to put that skylight in at "the wrong time"?

Anxiety and fatigue have worn dispositions thin and we are beginning to realize we have been tired for two days. Every bang and crash seems unfinished when no glass breaks. Nerves are taut with waiting for news, news which does not come due to crippled communications. Our mail is very easily distributed now—there is so little.

Saturday, September 24

Everything is much brighter. The sun shines shamelessly upon the stripped wreckage outside. Messages and letters are coming through. Telegrams to the outside are much delayed.

Oh the irony of remarks by those who missed its fury (though we are glad they did)—"How did you like the hurricane?"—this at the end of a six-page letter from Maine today. It probably sums up their knowledge of what happened.

Sunday, September 25

The clocks are going again. Some day when we tell our grandchildren (optimists) "the glass flew about us, and it was a terrible hurricane" they will probably think us a little tiresome. They will not know that even Hitler and the European War Crisis was forced out of the headlines for a time by the Hurricane News.

On July 1st Dr. Gerard Archambault of West Warwick started a dental internship of fifteen months—twelve months dental and three months in anesthesia. Dr. Archambault attended Providence College and Harvard Dental School.

August 1st, Dr. William W. Teahan, who had interned at the Rhode Island Hospital during the past two years, became Assistant Superintendent of the Hospital.

July 1st, Dr. Vincent Zecchino of Flushing, Long Island, started a residency on the orthopedic and fracture service. Previous to coming here, Dr. Zecchino spent eight years in a military school in Conversanem, Italy, and one and a half years as intern on the orthopedic service at the Long Island College Hospital. Dr. Zecchino graduated in medicine from the University of Bologna, Italy.

September 15th, Dr. David Jennison of Providence started a two years' internship. Dr. Jennison is a graduate of the University of Maine and Harvard Medical School.

July 15th, Dr. John A. Dillon of Waterbury, Connecticut, began a two years' internship. Dr. Dillon is a graduate of Holy Cross College and Yale Medical School.

June 15th, Dr. Wilfred I. Carney of Youngstown, Ohio, started a two year's internship. Dr. Carney is a graduate of Latrobe College and Jefferson Medical School.



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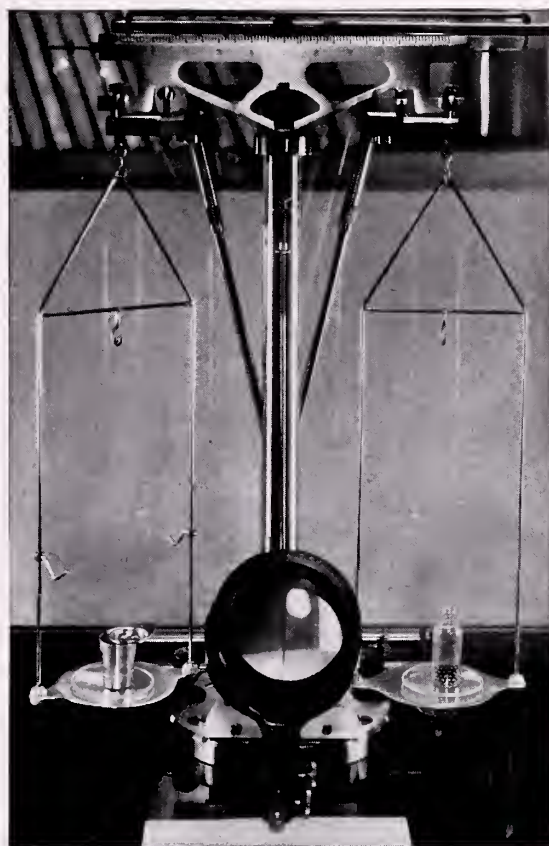
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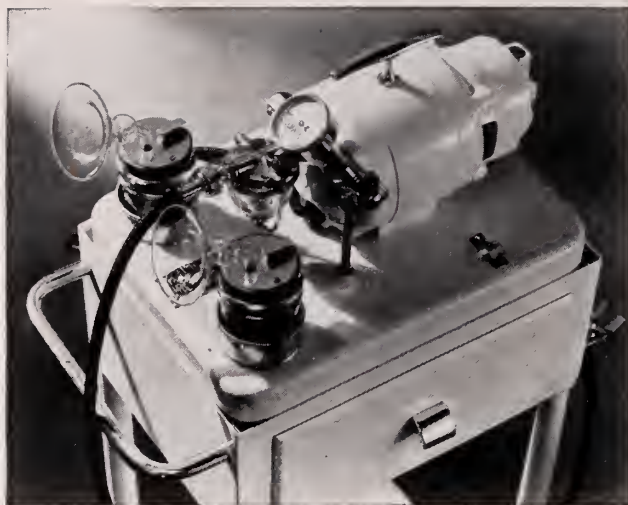
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Modern Surgery of the Esophagus. By Dr. Clarence E. Bird

Toxic Manifestations of Sulfanilamide. By Dr. Edward J. West

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RECENT ADVANCES IN THE SCIENCE OF NUTRITION

III. Some Attainments in the Fields of Vitamin A Research

● During the twenty-five years since its discovery, vitamin A has been the subject of much intensive research, first by the biochemist and physiologist, and later by the clinician and organic chemist. It may be of interest to describe briefly several of the achievements made in these various fields of research on vitamin A.

It has been found that vitamin A is unique among the vitamins thus far discovered. It is apparently the only vitamin produced solely by animal metabolism from precursors—certain carotenoid pigments—which are themselves solely the products of plant metabolism. The structure of the vitamin has been established and checked by syntheses of closely allied forms and probably of the pure vitamin itself (1).

Physiological and clinical researches have provided explanations of the mode of absorption of the vitamin and the mechanisms of transport and storage in the body (2). The specific pathological effects of varying degrees of vitamin A deficiency in humans have been extensively studied. Many of the older ideas concerning specific effects of vitamin A on man have been confirmed; some of the older beliefs have been dispelled (2).

Recent years have also brought improvements in assay methods for vitamin A (3). Common American foods have been sur-

veyed and their vitamin A values tabulated (4). Last but not least, authoritative estimates are at hand as to the quantitative requirements of children and adults for vitamin A (5). Such, in brief, are only a few of the important additions which have been made to our knowledge of this essential dietary factor. Today, students of nutrition favor the practice of "protective nutrition" in which the individual is maintained upon a diet calculated to supply all known dietary essentials—vitamin A included—in optimal amounts insofar as these amounts may be known. In specific instances, such dietaries must be supplemented by vitamin-rich materials. However, the prime consideration is to provide a properly formulated basic diet. In this connection, commercially canned foods are worthy of mention.

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1. 1938. J. A. M. A. 110, 1748.

2. 1938. Ibid. 111, 144.

1938. Ibid. 110, 2072.

3. 1938. Ibid. 111, 245.

4. 1937. U. S. D. A. Bur. of Home Econ., Misc. Pub. 275.

5. 1934-1935. Amer. Pub. Health Assn. Year Book 25, 69.

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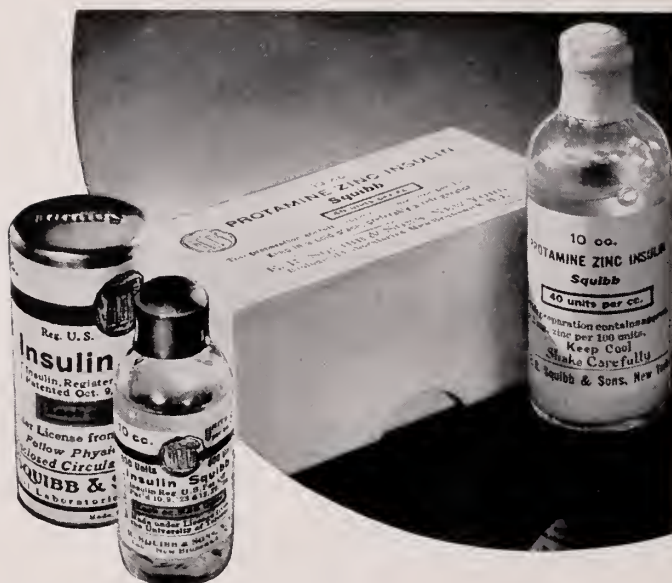
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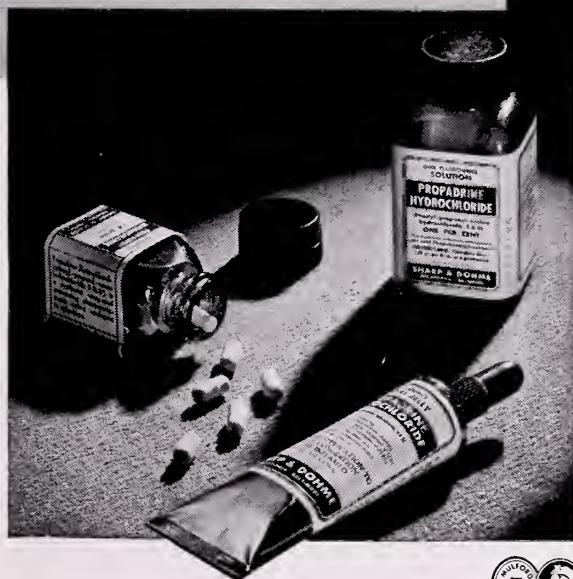
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MODERN SURGERY OF THE ESOPHAGUS

CLARENCE E. BIRD, M.D.
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This brief presentation summarizes the methods of those who are laboring the world over in the difficult and comparatively little known field of esophageal surgery. What I shall say today emphasizes, also, the results which may be expected from surgery carried out by the cervical, thoracic and abdominal routes; surgery, undertaken when endoscopic measures have proven insufficient to meet the situation. A moderate personal experience in endoscopy, and an acquaintance with the work of others, has given me great respect for the value of the esophagoscope both in diagnosis and treatment. Certainly it is indispensable in diagnosis in general, in the removal of foreign bodies, and in the treatment of benign strictures. However, there are many circumstances under which the esophagoscopist is able to diagnose but not to cure, and in which attack from without appears to offer the best means of relief for the patient. In the treatment of carcinoma of the esophagus, radiation has been disappointing (Watson, 1936).

The splendid pioneer work of Biondi (1895), Rehn (1898), Marwedel (1903), Mikulicz (1904), Sauerbruch (1905), Voelcker (1908), Meyer (1913, 1914, 1915), Zaaijer (1913), Torek (1913, 1925), Lilienthal (1921), and many others, in surgery of the esophagus, received severe set-backs during the years between 1913 and 1930, as the result of failures of operations for carcinoma (Bunnell, 1922; Fischer, 1923; Torek, 1929). Recently, on the other hand, and to the great encouragement of everyone, there have been a number of successes (Turner, 1931, 1933, 1934; Muir, 1936; King, 1936; Edwards, 1936; Brunn and Stephens, 1937; Garlock, 3 cases, 1938). The basic principles on which these attainments have been built are beginning to be recognized widely; they apply to all surgical problems of the esophagus. Thus the field of

usefulness of surgery of this structure is gradually broadening.

The ability of the skilled surgeon to expose adequately any region of the thorax, under conditions which will not shock the patient, is in itself an outstanding attainment. Proficiency in this matter has been developed slowly and depends upon many factors, among which the most important are: (1) pre-operative cleansing of the mouth and care of the teeth; (2) repeated lavage of the esophagus before operation; (3) preliminary pneumothorax on the affected side; (4) positive pressure intratracheal anesthesia with intermittent short pauses in the operation for more or less complete inflation of the lungs; (5) slow, intravenous administration of fluids from start to finish of the procedure; (6) sharp dissection, preferably with endothermic control of vessels in the chest wall; (7) temporary paralysis of the hemidiaphragm on the side of operation; (8) avoidance of unnecessary traction upon, and retraction of, intrathoracic structures; (9) hermetic closure of the thoracic wall with the aid of pericostal sutures, the lungs being fully expanded; (10) dependent, closed-system catheter drainage of the pleural space; and (11) transfusion of blood and administration of oxygen immediately postoperatively.

However, the most expert operation in regard to the aforementioned details of opening the chest, operating within it, and closing it again, will not save a patient if the mediastinum and pleura have become infected by the dangerous organisms of the esophageal lumen. Means are gradually being evolved to prevent this contamination. For example, the blind ends of certain cervical and thoracic esophageal diverticula may be sutured upward so that the sacs will remain empty, in this way relieving symptoms without opening the lumen of the esophagus. This is prevention of infection by completely avoiding the source of the organisms. If an esophagogastrostomy is performed for intractable functional stenosis or cardiospasm, the

From the Department of Surgery, University of Louisville. Read before the Rhode Island Medical Society, at the one hundred and twenty-seventh¹ Annual Meeting, Providence, June 1-2, 1938.

dilated esophagus can be coaxed downward and the peritoneum of the hiatus closed completely about it before incisions into the esophagus and stomach are made. Thus, the field of attack is transferred from the thorax into the abdomen. This is prevention of infection by excluding the mediastinum before contamination is possible. Again, in removal of a carcinoma of the thoracic esophagus, the entire organ is usually brought out at the neck, thus minimizing the chances of mediastinal infection by removing the source bodily. Furthermore, whenever the esophagus is severed, this is done between clamps or stout ties, with the thermal cautery, and the stumps are seared until thoroughly dehydrated. The lower end is usually inverted into itself or below the diaphragm by one or more purse-string sutures. No stitches are ever allowed to enter the lumen. This is prevention of infection by complete destruction of organisms and exclusion of the source of infection.

No attempt is ever made to close the proximal end of the severed gullet, because the accumulated esophageal secretions and saliva, driven like a water-hammer by peristalsis and gravity, will always leak out eventually, no matter how tight a closure is made. There are two alternatives: (1) to bring the entire esophagus out through the neck, as mentioned above, and (2) to deliver the aseptically severed end of the upper segment, if it is long enough, through the posterior chest wall to the skin (Zaaijer, 1913; Hedblom, 1922). Of course, in cancer, another method of removing the source of infection bodily is to divide the esophagus in the neck, bring the proximal end out to the skin, then protect the ligatured and cauterized lower stump with a thin rubber cover, free the thoracic esophagus, pull it into the abdominal cavity, and remove the whole mass transperitoneally at the level of the cardia, or lower if the stomach is also involved. (Turner, 1931).

The matter of drainage is of the greatest importance. When the mediastinum is already infected, or if contamination can be foretold, the approach to the space is made posteriorly and extrapleurally. Under these circumstances the opening of either pleura is a serious complication which must be met by suturing the defect and draining the pleural space by a closed catheter system. If the posterior wound must be packed open, the possibility of pyopneumothorax with a sucking wound is considerable. Therefore, if the source of the contamination has been removed, it may be better in some instances

to leave the mediastinum and pleura in communication, with a catheter in the pleural space for closed drainage, and to close the posterior wound tightly. This latter method may be used also if the mediastinum becomes contaminated during a transpleural operation, in which case drainage is effected by closed-system catheters led out of the chest under a water-seal, unilaterally or bilaterally. Slight negative pressure may be applied. Open drains cannot be left, because a sucking wound and pyopneumothorax will result.

If, during a transabdominal hiatal operation, the mediastinum has been contaminated and the pleura has not been opened, the lower mediastinum may be drained through the abdominal wound, care being taken that no foreign material is left in such a position as to compromise healing of suture lines.

These many details are mentioned partly because they indicate the lessons learned by thoracic surgeons as the result of many tragic experiences and fewer triumphs over a period of sixty years, and partly because they afford evidence of the resourcefulness which is bringing surgery of this region into position to meet some of the problems which are presented to it today.

What measure of success has already been attained? The following are the lesions for which much is offered: (1) perforations of the esophagus by missiles, foreign bodies, bougies, the esophagoscope or by spontaneous rupture; (2) periesophageal abscesses; (3) foreign bodies which cannot be removed through the esophagoscope; (4) intractable functional stenosis, or cardiospasm; (5) a limited but significant number of carcinomas of the esophagus and cardia of the stomach; (6) certain types of diverticula; (7) a few benign tumors; (8) impermeable strictures; and finally, (9) congenital atresias, with or without tracheo-esophageal fistulas.

I wish to consider these lesions in order, briefly:

Perforations

The greatest concern should be felt when the esophagus has been perforated from within or without. If a foreign body is present it should be removed through an esophagoscope; the patient is placed in bed in a head-down position; no food or water is allowed; saliva is expectorated; dextrose and salts are supplied intravenously. Any increase in evidence of sepsis, or even a stationary condition of the patient, is unsatisfactory, and unless fever, pulse rate and local tenderness begin to subside

within a few hours, the esophagus should be exposed (Klestadt, 1928). This may be done either by cervical or posterior mediastinal extrapleural esophagotomy. The wound is packed open. Every possible precaution is taken to prevent open pyopneumothorax. If one or both pleural cavities have been contaminated by the perforation, the pleural space or spaces are drained by closed-system catheters which must be made to function continuously.

Periesophageal Abscesses

Localized periesophageal abscesses occur most often as the result of perforation of neglected foreign bodies, or they may form as the end result of bullet or knife wounds of the cervical esophagus. Sometimes a small perforating foreign body will not be visible by the esophagoscope at a late stage, or it may have perforated into the purulent cavity. A periesophageal abscess may occasionally be drained through the endoscope at the time a foreign body is searched for, by dilating or incising the opening already present in the esophagus (Kramer, 1929; Vogel, 1932). In most instances, however, there will be no safe means of entering the cavity by way of the lumen. After careful localization by physical signs, roentgenography, and esophagoscopy, cervical or posterior extrapleural exposure and drainage of the abscess is indicated.

Foreign Bodies Which Cannot Be Removed Through the Esophagoscope

Foreign bodies which cannot be removed through an esophagoscope are practically non-existent at the present day. Almost any kind of large foreign body can be cut up and removed piece-meal. However, in years gone by, many extraneous bodies were removed by incision in the neck, or by way of the posterior mediastinum, or by reaching up from within the stomach through the cardia. Even at present, failure of safe extraction through the esophagoscope forces esophagotomy or transgastric removal.

Intractable Functional Stenosis

(CARDIOSPASM, ACHALASIA OF THE CARDIA,
IDIOPATHIC DILATION, PHRENOSPASM)

Every case of functional stenosis, whether of the infant or adult type, must be studied roentgenographically and esophagoscopically, to rule out webs, diaphragms, partial atresia, ulcer, inflammatory stricture, hiatus hernia, diverticulum and carcinoma (Vinson and Moersch, 1928; Vinson, 1936). Infants and children and most adults re-

spond to hydrostatic dilatation. This may be supplemented by daily lavages of the dilated sac to reduce inflammation. Papaverine hydrochloride given subcutaneously or by mouth in 45 to 120 milligram doses will often empty the esophagus dramatically, by paralyzing the smooth muscle of the cardia, but this treatment should not be repeated indefinitely (Stein, 1915; Howarth, 1922). Degeneration of the endings of the vagus nerves within the wall of the esophagus has been demonstrated to be at least one important factor in the causation of functional stenosis (Rake, 1927; Guns, 1928; Tamiya, 1929; Scrimger, 1931). The result is an overbalance of power in the circular smooth muscle of the cardia, which is supplied at least in large part by sympathetic fibers (Knight and Adamson, 1935; Knight, 1935). In one case of moderate severity accompanied by pain and in which hydrostatic dilatation was ineffective, permanent paralysis of the sympathetic rami was achieved by a bilateral cervicodorsal ganglionectomy and ramiceotomy by the posterior route, with permanent cure (Craig, Moersch and Vinson, 1934). This result could also be accomplished, at least temporarily, by alcohol injections of the stellate and upper thoracic ganglia. However, local sympathetomies by the abdominal route show promise in the relief of cases with moderate dilatation and failure of cure by hydrostatic bags. Abdominal sympathetomy (Recalde, 1932; Knight, 1935) undoubtedly will be used more often than cervicodorsal, because it allows exploration of the lower esophagus and is unaccompanied by the undesirable Horner's syndrome.

If the dilatation has become extreme, so that the lower portion of the S-shaped gullet depresses the diaphragm, and if this sac lies below the entrance of the esophagus into the stomach (Lambert, 1914), some of these cases require mobilization of and straightening out of the esophagus. The lower portion of the dilated gullet is freed from its mediastinal surroundings and then gently pulled down and sutured to the borders of the widened peritoneal and diaphragmatic hiatus. One of two additional steps should be taken in order to insure relief of the patient: (1) extramucous cardioplasty (Heller, 1913; Delbet, 1929; Charbonnel and Massé, 1932), which is similar to the Ramstedt operation for pyloric stenosis of infancy, and (2) esophagogastrostomy (Heyrovsky, 1912; Bull, 1925; Häggström, 1930; Churchill, 1935). The fifty-six-year old negress whose film is shown

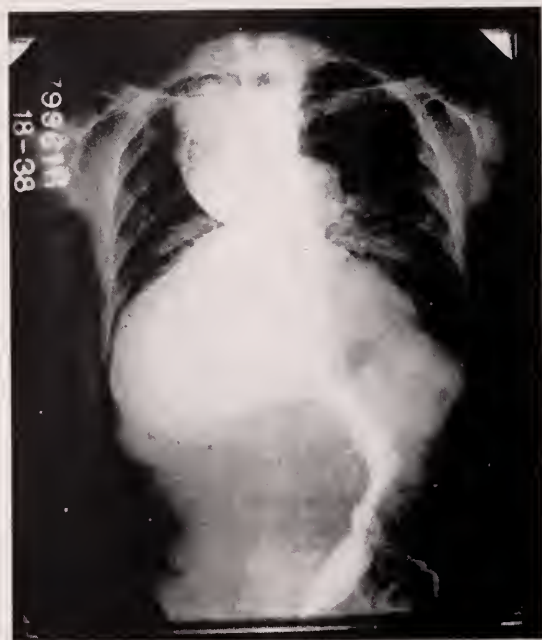


FIGURE 1. The type of advanced functional dilatation which requires treatment by operation.

(Fig. 1), was operated upon by the speaker several years ago, using the out-moded Mikulicz procedure of transgastric digital dilatation of the cardia. When the forefinger was introduced it felt as if it were in the grip of a long sphincter. Three fingers were eventually passed. She has been only partially relieved and must occasionally wash her esophagus out, but has gained weight and eats everything.

Carcinoma

Early carcinoma of the cervical esophagus has been treated by excision for many years. A few cures have resulted, but the larynx has usually been excised with the mass and the patients have not been able to swallow well in spite of attempts at plastic reconstruction of the cervical esophagus by the use of skin flaps. Functionally they have been most unhappy and recurrences in the wound or in regional lymphatic nodes have been frequent. These cervical growths are most common in females and are usually of the squamous variety.

Carcinoma of the thoracic and terminal esophagus occurs in males in the proportion of 4:1. At the cardia it is likely to arise from glandular tissue, sometimes from the upper stomach, in which case it encroaches on the wall and lumen of the esophagus as the disease advances upward. In the thoracic esophagus most of the growths are squamous in type and are found at or below the arch of the aorta.

The recent encouraging successful excisions have been in the thoracic and in the lower esophageal types. As preliminary steps in the operations, exploration of the liver and upper abdominal lymphatic nodes, and gastrostomy or jejunostomy are carried out routinely. Details of technique of the operations cannot be given, but the principles have been outlined, and it now seems feasible to excise some of these tumors and to supply an artificial esophagus which will function satisfactorily.

The most interesting problem is to determine how many of the cases will be operable. Opinions and statistics vary greatly as to this point, but the true figure of operability seems to lie at about five per cent. This takes into consideration the questions of general condition of the patient and the presence or absence of regional infiltration or distant metastases. Probably at least half of the patients who present themselves with carcinoma of the thoracic esophagus or cardia should be explored abdominally and about fifteen per cent additionally by the thoracic route to determine operability. A higher percentage of operability will undoubtedly ensue when esophagoscopies are done earlier for symptoms suggestive of disorders of function in the esophagus and cardia of the stomach, and when internists and endoscopists refer patients for operation immediately after a diagnosis of carcinoma is made (Meyer, 1913; Jackson, 1925; Turner, 1936).

Diverticula

Although cervical diverticula arise almost always in the posterior midline of the pharynx just above the anatomical origin of the esophagus, the sacs hang downward and pull the orifice into the position of the esophagus. These diverticula, even though they occur as a rule in older people, are now excised with practically no mortality (Babcock and Jackson, 1931). In most hands, the two-stage method is practised (Goldmann, 1909; Kingman, 1923; Lاهی, 1937), the first stage relieving symptoms by inverting and emptying the sac (König, 1922), and also, which is more important, allowing the formation of a wall of sterile adhesions which prevents descent of infection into the mediastinum when the sac is excised at the second stage. Healing often occurs primarily after the second operation, and fistulas, recurrences and strictures are becoming very uncommon.

The small traction diverticula which result from the lateral pull of healing tuberculous lymph nodes near the bifurcation of the trachea rarely cause



FIGURE 2. A large pharyngeal diverticulum of the common variety; also a small, asymptomatic diverticulum just above the diaphragm.

symptoms, but the counterpart of the cervical pulsion diverticulum occurs occasionally just above the diaphragm, and there may dilate and bring about troublesome dysphagia. If, by an abdominal approach, such a diverticulum can be brought down together with the terminal esophagus into the peritoneal cavity, the sac can be excised or it can be anastomosed with the fundus of the stomach in such a way as to drain it permanently (Lotheissen, 1908). If the neck of the sac arises at too high a level for this procedure, the proposal has been made (König, 1922), and successfully carried out (Lahay 1937), to approach the sac transthoracically and to suture its fundus at a high level so that it will remain empty and will not further enlarge. In several cases diverticula have been successfully excised by a thoracic approach (Clairmont, 1927; Barrett, 1933).

The roentgenogram shown (Fig. 2), was taken recently of a physician, aged 72, who has moderate dysphagia as a result of a large cervical diverticulum. Interestingly enough, he has a smaller sac just above the diaphragm and many diverticula of the colon.

Benign Tumors

Benign growths have been observed occasionally (polyps, papillomas, lipomas, fibromas, adenomas,

epithelial cysts, dermoid cysts, leiomyomas, rhabdomyomas and angiomas) (Garretson and Hardie, 1928; Patterson, 1932), but they occur rarely and are often asymptomatic. When they are pedunculated they may be removed through an esophagoscope. A few reports have been written of benign tumors which caused death by occlusion of the esophagus or by pressure against a lower lobe bronchus, resulting in fatal bronchiectasis. It is conceivable that one of these benign tumors will be removed surgically some day, before extensive regional damage has occurred.

Impermeable Strictures

At one time efforts were made to replace the occluded esophagus by inverting the stomach into the thorax, but the operations failed for many reasons. The successful method has been to bring the upper end of the divided cervical esophagus out to the skin, and later to connect it with the stomach either by a rubber tube or by a conduit of skin and jejunum.

Congenital Atresia

When a baby is born who regurgitates his feedings, chokes and becomes cyanotic, and then exhibits rales in the lungs, the diagnosis of congenital atresia of the esophagus should be made. Eight times in ten there will be a blind pouch above, and a tracheo-esophageal fistula below, as shown in the accompanying diagram (Fig. 3). If such a fistula is present, the stomach and intestines will fill with air within a few hours, and there will be found abdominal tympany and a characteristic appearance of distension by X-ray (v. Gilse, 1925; Vogt, 1929; Reid, 1932).

The story of attempts to relieve this condition is one of ingenious perseverance. About 65 per cent of the patients have other anomalies, predominantly anal atresia, but usually they are compatible with life (Plass, 1919). Gastrostomy and jejunostomy have been performed many times, but have never been successful because of regurgitation through the lower esophagus into the trachea. If the cardia is tied off, the mucosal secretions back up into the lungs and within a few days cause bronchopneumonia. The most direct approach to the problem is to open the thorax and there interrupt the fistula. This has been done, but although apparently feasible, thus far it has been unsuccessful (Richter, 1913; Bohrer, 1936). The nearest approach to a live baby has come through the efforts of Leven (1936), whose two infants lived 98 and 53 days, respec-

tively, after the following procedure: under local anesthesia the lower portion of the esophagus and the upper half of the stomach were gently freed and brought out upon the abdominal wall just below the xiphoid cartilage. A catheter for aspiration was placed in the lower esophagus, and a tube was inserted into the stomach for feeding. The angulation at the level of the wound prevented passage of gastric contents upward into the esophagus.

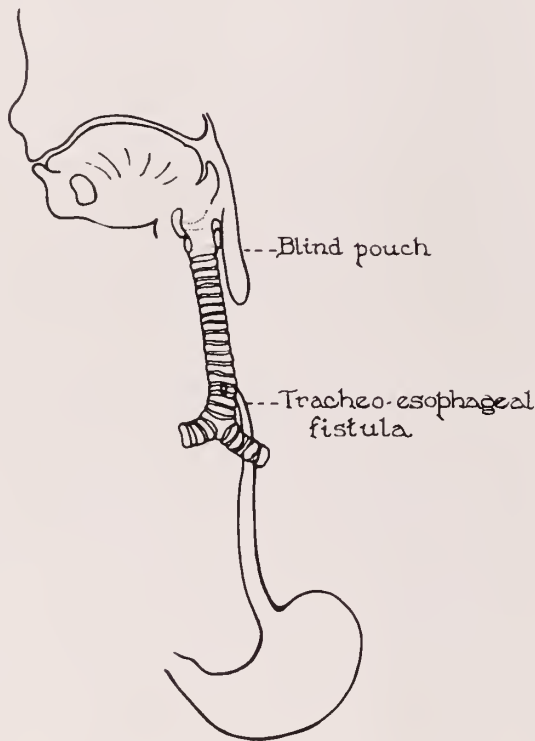


FIGURE 3. Diagram of the most common congenital anomaly of the esophagus. The newer operations give promise of relief for this condition.

A constant threat to these infants, no matter what is done to prevent reflux through the fistula, is the overflow from the contents of the upper blind sac into the trachea and lungs. Leven attempted to prevent this by carrying an aspirating tube transnasally into the blind pouch, but the child developed bilateral acute otitis media, a frequent sequel to the presence of indwelling catheters in infants. This complication depends, apparently, on the horizontal position of the eustachian tubes during early childhood, whereby pharyngeal secretions enter the middle ear more easily than in the adult.

The logical step in a further attack on the problem of congenital atresia of this type is to combine Leven's principle with an opening of the blind pouch to the skin. It should then be possible, later on, to connect the upper esophageal fistula with the gastrostomy tube, and it is not improbable that the tracheo-esophageal fistula could be closed by the use of a sclerosing solution, such as silver nitrate, applied by way of a bronchoscope. Direct attack on the fistula is an attractive alternative and should be tried again in an infant who is in good condition.

Conclusion

This rapid review has been designed to stimulate interest in a relatively new field of surgery which undoubtedly deserves support. It should be recalled that the development of surgery of the thorax has been the work of many men over a period of fifty or sixty years. Progress has been particularly rapid since 1930, and many of the lesions for which surgical treatment is indicated may now be approached with a reasonable likelihood of success.

REFERENCES

- Babcock, W. W. and Jackson, C.: The single stage operation for pulsion diverticulum of the oesophagus, *S. G. & O.* 53:667-669, 1931.
- Barrett, N. R.: Diverticula of the thoracic oesophagus, *Lancet* 224:1009-1011, 1933.
- Biondi, D.: Esophago-gastrostomia sperimentale intratoracica, *Policlinico (suppl.)*, p. 964, 1895.
- Bohrer, J. V.: Discussion in Leven (*loc. cit.*).
- Brumm, H. and Stephens, H. B.: Carcinoma of the thoracic esophagus; a report of the successful removal in one case, *J. Thoracic Surg.* 7:38-42, 1937.
- Bull, P. N.: So-called idiopathic dilatation of the oesophagus; synonyms: dilatatio fusiformis oesophagi, cardio-spasmus, megaesophagus; five cases, of which four have been treated by means of oesophago-gastrostomia subdiaphragmatica, *Ann. Surg.* 81:59-93, 470-493, 1925.
- Bunnell, S.: Oesophagectomy, *S. G. & O.* 34:408-410, 1922.
- Charbonnel and Massé, L.: Méga-oesophage avec rétrécissement inférieur. Opération par voie abdominale (cardio-oesophagotomie extramuqueuse). Résultat datant de sept mois, *Bull. et mem. Soc. nat. de chir.* 58:1092-1102, 1932.
- Churchill, E. D.: Oesophageal surgery, *S. G. & O.* 60:417-423, 1935.
- Clairmont: Case referred to by Moynihan, Sir Berkeley, Harveian lecture on diverticula of the alimentary canal, *Lancet* 1:1061-1066, 1927.
- Craig, W. M., Moersch, H. J. and Vinson, P. P.: Treatment of intractable cardiospasm by bilateral cervicothoracic sympathetic ganglionectomy: report of a case, *Proc. Staff Meet., Mayo Clin.*, 9:749-753, 1934.
- Delbet, P.: Mégaesophage. Opération par voie abdominale, *Bull. et mem. Soc. nat. de chir.* 55:481-482, 1929.

Edwards, A. T.: Extirpation of the oesophagus for carcinoma, *J. Laryngol. and Otol.* 51:281-292, 1936.

Fischer, H.: Surgical treatment of the esophagus, *Arch. Surg.* 6:256-273, 1923.

Garlock, J. H.: The surgical treatment of carcinoma of the thoracic esophagus; with a report of three successful cases, *S. G. & O.* 66:534-548, 1938.

Garretson, W. T. and Hardie, G. C.: Another case of pedunculated lipoma of the esophagus, *J. A. M. A.* 90:1373-1374, 1928.

v. Gilse: *Acta Otolaryngologica*, 7:202, 1925.

Goldmann, E. E.: Die zweizeitige Operation von Pulsonsdivertikeln der Speiseröhre, nebst Bemerkungen über den Oesophagusmund, *Beitr. z. klin. Chir.* 61:741-749, 1909.

Guns, P.: Phrenospasm and cardiospasm in megaesophagus, *Arch. Otolaryngol.* 8:156-158, 1928.

Häggström, P.: Zwei Fälle von Kardiospasmus und Oesophagus-dilatation, die mit glücklichem Ausgang nach Heyrovsky operiert wurden, *Acta chirurg. Scand.* 66:345-371, 1930.

Hedblom, C. A.: Combined transpleural and transperitoneal resection of the thoracic oesophagus and the cardia for carcinoma, *S. G. & O.* 35:284-287, 1922.

Heyrovsky, H.: Casuistik und Therapie der idiopathischen Dilatation der Speiseröhre. Oesophago-gastroanatomose. *Arch. f. klin. Chir.* 100:703-713, 1912-1913.

Howarth, W. G.: Affections of the lower segment of the esophagus, *Brit. Med. J.* 2:470-473, 1922.

Jackson, C.: Carcinoma and sarcoma of the esophagus; a plea for early diagnosis, *Am. J. Med. Sci.* 169:625-648, 1925.

King, E. S. J.: Oesophagectomy for carcinoma of the thoracic oesophagus, *Brit. J. Surg.* 23:521-529, 1936.

Kingman, L. C.: A case of diverticulum of the esophagus, *Boston Med. and Surg. J.* 188:361-362, 1923.

Klestadt: Über die frühzeitige Ösophagotomie bei Periösophagitis mit Bemerkungen zum Initialemphysem, *Ztschr. f. Laryng., Rhin. u. ihre Grenzgeb.* 16:470-478, 1928.

Knight, G. C.: The relation of the extrinsic nerves to the functional activity of the oesophagus, *Brit. J. Surg.* 22:155-168, 1935.

Knight, G. C. and Adamson, W. A. D.: Achalasia of the cardia (including therapy by sympathectomy), *Proc. Roy. Soc. Med.* 28:891-897, 1935.

König, F.: Zur Operation des Oesophagusdivertikels, *Deutsch. med. Wchnschr.* 1:719-720, 1922.

Kramer, R.: Endoscopic treatment of esophageal supuration, *Laryngoscope*, 39:97-102, 1929.

Lahey, F. H.: The management of pulsion esophageal diverticulum, *J. A. M. A.* 109:1414-1419, 1937.

Lambert, A. V. S.: Treatment of diffuse dilatation of oesophagus by operation; description of a hitherto unpublished method; report of a case, *S. G. & O.* 18:1-9, 1914.

Leven, N. L.: Surgical management of congenital atresia of the esophagus with tracheo-esophageal fistula; report of two cases, *J. Thoracic Surg.* 6:30-39, 1936.

Lilienthal, H.: Carcinoma of the thoracic esophagus; successful resection, *Ann. Surg.* 74:116-120, 1921.

Lotheissen: Ein Vorschlag zur Operation tiefsitzender Oesophagusdivertikel, *Zentralbl. f. Chir.* 35:811-815, 1908.

Marwedel, G.: Die Aufklappung des Rippenbogens zur Erleichterung operativer Eingriffe im Hypochondrium und im Zwerchfellkuppelraum, *Zentralb. f. Chir.* 30:938-941, 1903.

Meyer, W.: The surgical treatment of cancer of the esophagus, *New York Med. Rec.* 83:888-889, 1913. Extrathoracic and intrathoracic esophagoplasty in connection with resection of the thoracic portion of the esophagus for carcinoma, *J. A. M. A.* 62:100-105, 1914. Further experience with resection of the esophagus for carcinoma, *S. G. & O.* 20:162-170, 1915.

v. Mikulicz, J.: Zur Pathologie und Therapie des Cardiospasmus, *Deutsche med. Wchnschr.* 30:17-19, 50-54, 1904.

Muir, E. G.: Resection of the lower esophagus and cardia, *Lancet* 2:75-77, 1936.

Patterson, E. J.: Benign neoplasms of the esophagus; report of a case of myxofibroma, *Ann. Otol., Rhin. and Laryng.* 41:942-950, 1932.

Plass, E. D.: Congenital atresia of the esophagus with tracheo-esophageal fistula, associated with fused kidney; a case report and a survey of the literature on congenital anomalies of the esophagus, *Johns Hopkins Hosp. Rep.* 18:259-286, 1919.

Rake, G. W.: Pathology of achalasia of the cardia, *Guy's Hosp. Rep.* 77:141-150, 1927.

Recalde, J. F.: Cardiospasmus, disfagia e megoesofago. Simpaticectomia esofagica. *Arch. ital. di chir.* 32:613-634, 1932.

Rehn: Operationen an dem Brustabschnitt der Speiseröhre, *Verhandl. d. deutsch. Gesellsch. f. Chir.* 27:448, 1898.

Reid, M. R.: An aid in the diagnosis of a certain type of congenital esophageal stenosis, *J. Pediat.* 1:87-90, 1932.

Richter, H. M.: Congenital atresia of the esophagus; an operation designed for its cure, *S. G. & O.* 17:397-402, 1913.

Sauerbruch, F.: Die Chirurgie des Brustteils der Speiseröhre: Eine experimentelle Studie, *Beitr. z. klin. Chir.* 46:405, 1905.

Scrimger, F. A. C.: Idiopathic dilatation of the oesophagus, *Ann. Surg.* 94:801-817, 1931.

Stein, A. E.: Papaverin zur Differential-diagnose zwischen Oesophagospasmus und Oesophagusstenose, *Fortschr. a. d. Geb. d. Röntgenstrahlen* 23:366-368, 1915-1916.

Tamiya, C.: Über idiopathische Ösophagusdilatation und ihre Pathogenese mit besonderer Rücksicht auf den Funktionszustand des vegetativen Nervensystems, *Deutsch. Arch. f. klin. Med.* 164:147-162, 1929.

Torek, F.: Resection of the middle portion of the esophagus for carcinoma, *S. G. & O.*, 16:614-617, 1913. Carcinoma of the thoracic portion of the esophagus; report of a case in which operation was done eleven years ago. *Arch. Surg.* 10:353-360, 1925. The causes of failure in the operative treatment of carcinoma of the oesophagus, *Ann. Surg.* 90:496-506, 1929.

Turner, G. G.: (Bigelow Lecture) Some experiences in the surgery of the oesophagus, *New England J. Med.* 205:657-674, 1931. Excision of the thoracic oesophagus for carcinoma, with construction of an extrathoracic gullet, *Lancet* 2:1315-1316, 1933. Excision of the thoracic oesophagus for carcinoma, *Lancet* 2:1293-1294, 1934. Carcinoma of the oesophagus: the question of its treatment by surgery, *Lancet* 230:67-72, 130-134, 1936.

Vinson, P. P. and Moersch, H. J.: The differential diagnosis of lesions of the lower part of the esophagus and cardiac end of the stomach, *Med. Clin. North America*, 11:1389-1398, 1928.

Vinson, P. P.: The differential diagnosis of lesions involving the lower end of the esophagus, *Rev. Gastroenterol.* 3:347-350, 1936.

Voelcker: Über Exstirpation der Cardia wegen Carcinoms, *Verhandl. d. deutsch. Gesellsch. f. Chir.* 37:126-129, 1908.

Vogel, K.: A mediastinal gravity abscess cured by endoscopic oesophageal incision, *Ztschr. f. Laryngol., Rhinol.* 22:317, 1932.

Vogt, E. C.: Congenital esophageal atresia, *Am. J. Roentgenol.* 22:463-465, 1929.

Watson, W. L.: Cancer of the esophagus, *New York J. Med.* 36:1615-1619, 1936.

Zaaijer, J. H.: Erfolgreiche transpleurale Resektion eines Cardiacarcinoms, *Beitr. z. klin. Chir.* 83:419-430, 1913.

THE TOXIC MANIFESTATIONS OF SULFANILAMIDE

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It must be borne in mind that the administration of sulfanilamide and its derivatives is not entirely without danger.

Symptoms due to the toxic or deleterious action of the drug may be divided into three classes: first, those due to the direct toxic effect, such as anorexia, nausea, vomiting; second, those which are at present considered due to an individual idiosyncrasy to the drug, such as hemolytic anemia and agranulocytosis; and third, those effects in which the action and significance are still not clear, namely, hyperpyrexia and the cutaneous reactions.

In the first group of so-called direct toxic effects which have been widely recognized and reported are dizziness, anorexia, nausea, vomiting, headache, malaise, lassitude, drowsiness, acidosis, and cyanosis. Long and Bliss,¹⁹ in an article read in November, 1936, and published in May, 1937, reported that patients receiving this drug often complained of dizziness, anorexia, nausea, and vomiting. They also described another toxic manifestation in the form of cyanosis.

From the Charles V. Chapin Hospital.

The final paper in a symposium on Sulfanilamide, presented before the Providence Medical Association, at the meeting on April 4, 1938. The other papers have been printed in the September and October numbers.

These symptoms are described as direct toxic action because on withdrawal of the drug they rapidly disappear and in many cases are distinctly lessened or prevented by smaller dosage. The gastro-intestinal symptoms are usually mild and do not contraindicate the drug although one report states that ten per cent of their patients were unable to tolerate the drug at all.²⁷ In exaggerated cases, a change in the drug or the method of administration is usually all that is necessary. An attempt is made to explain these effects on the basis of circulatory action but the preparation, relative irritability, psychic effect, and the acidity of the stomach all need be considered.²³

Cyanosis is a little more difficult to explain and is probably the most important of these reactions as it may be associated with methemoglobinemia or sulfhemoglobinemia. Long and Bliss¹⁹ noted cyanosis in three-fourths of their patients treated with sulfanilamide but they did not consider that it warranted stopping treatment. They also reported a fall in the carbon dioxide combining power of the blood in practically all their patients. Southworth²⁸ also noted that cases treated with this drug showed a drop in the carbon dioxide combining power and reported the development of clinical acidosis in two patients.

Marshall and Walzl,²⁹ in making a study of this problem of cyanosis, found that the oxygen-carrying capacity of the blood was not always reduced and that not more than traces of non-functional iron pigment (methemoglobin) were present in the blood of these cyanotic patients. They felt that cyanosis was not due to non-functional iron pigment and questioned the statement that methemoglobin is the principal cause of cyanosis. They concluded that the cyanosis and dark color of the blood resulted from the presence of a black oxidation product of the drug which stains the red blood cells.

Colebrook and Kenny³⁰ first called attention to the occurrence of sulfhemoglobinemia. They reported two series of cases of puerperal sepsis and, in the first series of 38, there were three cases of sulfhemoglobinemia. In the second series³¹ of 26 similar cases, there was no evidence of this condition and the only difference in the two groups was that magnesium sulphate was withheld in the second group.

Paton and Eaton³² also made a study of this problem and found that magnesium sulphate, when

given with sulfanilamide or even within two or three days preceding its administration, gave rapid rise to sulfhemoglobinemia, in most persons, even with small doses of the drug. Frost³³ and others, however, have reported sulfhemoglobinemia in cases in which magnesium sulphate was not used.

Archer and Discombe³⁴ made further studies on this subject and it is their opinion that sulfhemoglobin is formed from the excess hydrogen sulphide produced by bacteria in the bowel and that any preparation liable to produce a watery stool will produce the same effect in that it favors bacterial growth. For that reason, a low residue diet with low ration of eggs, because of their high sulphur content, is suggested.

Methemoglobinemia and sulfhemoglobinemia have been found to occur rather frequently. One report³⁵ of the examination of the bloods of 53 out of 58 cyanotic patients receiving this drug showed evidence of sulfhemoglobinemia in thirteen, methemoglobinemia in twenty-four, and both in eight cases.

The most serious complications which may arise from the use of sulfanilamide are acute hemolytic anemia and granulocytopenia. The benzene nucleus in sulfanilamide and its derivatives has caused many to regard these drugs as a potential danger in depressing the blood cells such as has occurred with other drugs, notably aminopyrene.

Within the past year, reports have reached the literature of at least thirteen cases of acute hemolytic anemia and seven cases of granulocytopenia. In many of these reported cases, the overwhelming infection makes the possible secondary reaction to the drug confusing as to the etiology of the anemia.

Harvey and Janeway³⁶ reported three cases of a hemolytic type of anemia and Kohn and others have reported similar cases. Borst³⁷ reported the first death from this group of drugs in June 1937. This case, however, had previously been diagnosed thrombocytopenic purpura in 1926 and died following a rapid drop in the white blood count. Young³⁸ reported a case of fatal agranulocytosis in which death occurred five days after the drug had been stopped. Schwartz³⁹ reported a fatal case which had previously had thirty-two injections of Mapharsen together with other anti-syphilitic treatment but, as these had been stopped some eight weeks previously, they were ruled out as an etiological factor. McIntosh⁴⁰ reported a baby developing granulocytopenia under small doses of the drug.

The total dosage in these cases was not unusual. It was less than 750 grains in seven cases and ranged from 60 grains in the case reported by Kohn⁴¹ to 152 grams (2280 grains) in another.⁴²

Among the secondary effects of the drug, the action at present not being clear as to whether it is a direct toxic effect or an individual idiosyncrasy, are febrile reactions and skin eruptions. These symptoms more often occur together but may appear singly. Fever, alone, naturally offers a problem in deciding whether it is due to the drug or to the infection for which it is being given.

Long and Bliss¹⁹ early reported that this group of drugs produced one toxic effect, namely, fever. When this occurred, the drug was stopped for two or three days and if the temperature dropped to normal, the rise was considered due to the drug.

Hageman and Blake⁴³ reported fever in 21 of 134 cases receiving sulfanilamide. The fever, which varied from normal to 106°, appeared in from seven to 10 days after therapy was begun and was accompanied by a morbilliform rash in about half of the patients. The fever was apparently independent of the drug concentration as it appeared in the majority of cases after the dosage had been reduced. The duration was from two to four days and the rash, when present, usually subsided with the fever. These authors suggest that this reaction is comparable to that of serum sickness.

Skin rashes and other cutaneous reactions are rather common secondary effects and many reports have reached the literature in the past year. In a study of this problem, Schwentker and Gelman⁴⁴ found ten cases out of 180, or 6%. Rash developed as early as the third day but in half the cases it appeared between the tenth and fourteenth day. It was described as distinctly morbilliform in appearance, developing rapidly without any prodromal symptoms and usually within twelve hours, accompanied or preceded by malaise and fever. The rash disappeared rapidly on withdrawal of the drug and reappeared in a less intense form if the drug was again administered. They also reported that the eruption faded, but more slowly, even if the drug was not discontinued. Another author⁴⁵ states that in many respects the rash resembles that of the reaction usually attributed to the barbiturates.

Recently, severe skin reactions have been reported following exposure to direct sunlight during the course of sulfanilamide therapy. Newman and

Sharlit⁴⁶ have observed ten such cases in which the patient showed a skin eruption on those areas exposed to the sun's rays. The skin became deep red with a violaceous tinge and there was intense itching, and fever in some cases. If the sulfanilamide were withdrawn and exposure to sunlight avoided, the rash disappeared in about a week, but could be made to return if sulfanilamide were again given. Others have reported similar cases and it is generally agreed that ambulatory patients receiving the drug should be instructed to avoid exposure to direct sunlight.

Other complications have been reported but they are, in comparison, less common and in some there is doubt as to what extent sulfanilamide is implicated.

The catastrophe of last fall involving the so-called "Elixir of Sulfanilamide—Massengill," in which at least seventy-three patients lost their lives, need perhaps only be mentioned.⁴⁷ Sulfanilamide can now be exonerated as all investigation since then has shown that the diethylene glycol used as the solvent is a cumulative poison causing marked kidney destruction.

There is still, of course, considerable doubt as to the cause and significance of many of the recognized secondary reactions to this drug, and, until more is known of the contraindications, it is perhaps safer to use discretion with its use in the face of toxic signs. This is, naturally, well recognized in the literature and one author⁴⁸ concludes that it is a marvelous but dangerous drug and should be used only by careful observers capable of watching their cases. In New York City and California, the sale of the drug has been restricted.⁴⁹⁻⁵⁰ Some observers report practically no untoward reactions, stopping the drug with the first toxic manifestation with consequent restriction of the therapeutic effect.

The toxic symptoms of headache and nausea are of little concern but at times they may warrant changing the method of administration. It is agreed, however, that patients tolerate the drug better when kept in bed, that the young tolerate it better than the aged, and also that males are better able to tolerate it than females. Infants tolerate the drug comparatively well.

Cyanosis warrants consideration because of its association with methemoglobinemia and sulfhemoglobinemia. When it occurs, the patient should be

watched carefully for any sign of dyspnoea and most authors advise a routine spectroscopic examination of the blood on the appearance of this symptom.

Methemoglobinemia is perhaps present, to a degree, in a large percentage of cases and does not interfere with treatment. In marked cases it disappears rapidly when the drug is stopped and oxygen administration is distinctly helpful.

Sulfhemoglobinemia, on the other hand, is distinctly more significant, longer lasting, and responsible for many symptoms and pathological changes. It is self-evident that the drug should be withdrawn immediately. Oxygen is of no value as the oxygen-carrying capacity of the blood is impaired for as long as six weeks. When this condition occurs, blood transfusions and intravenous saline and glucose are indicated.

One author⁵¹ advises that sulphur and any preparations that contain it should be avoided. The saline and anthracene group of aperients and laxatives, the aniline derivatives (phenacetin and acetanilide), the phenylhydrazine derivatives (antipyrine and aminopyrine), and the sulphonmethane group all should be avoided during treatment with this drug.

Routine blood counts are recommended by many authors and any significant drop can serve as a warning of the blood dyscrasias. For the same reason, jaundice is very important. Fortunately, the occurrence of acute hemolytic anemias and granulocytopenia is extremely rare as a complication, but each must be considered as a distinct possibility.

In the 300 odd cases treated with sulfanilamide at the Charles V. Chapin Hospital, there have been no serious toxic reactions. We have noted nausea, malaise, anorexia, dizziness, and lassitude in a large percentage of our cases, the degree of these symptoms being almost directly proportional to the amount of the drug given. Nausea and vomiting were severe enough to warrant stopping the drug in only five cases.

Cyanosis was noted in about three-fourths of the cases and ranged in intensity from a mild bluing of the lips to a rather intense slaty appearance of the skin, lips, and nail beds. Here again, in most cases the degree of cyanosis was almost always proportional to the dosage. In no case, however, was the drug stopped because of this symptom.

The carbon dioxide combining power was found to be reduced in all those cases tested ranging from 50 to 39 volumes percent. It is worthy of note that a subsequent CO_2 reading in the patient with 39 rose to 47 after giving sodium bicarbonate, although the concentration of sulfanilamide in the blood remained approximately the same.

The percentage of sulfanilamide in the blood and spinal fluid was determined in several cases and it was noted that in most cases the spinal fluid percentage very nearly approximated that of the blood and exceeded it in one case. This is probably because the amount in the blood fluctuates more than does that in the spinal fluid. The results in another case are of interest. A patient was given 80 grains of sulfanilamide by mouth. Three and a half hours later, the concentration in blood and spinal fluid showed seven and five milligrams per 100 cc respectively. This shows a satisfactory concentration can be attained earlier than is commonly believed.

The one hundred routine cases of scarlet fever treated with sulfanilamide afford a good opportunity for study of reactions because of the uniform dosage given over a period of 4 weeks.

The symptoms listed above were noted but were usually mild and in only one instance was nausea and vomiting the cause of withdrawal of the drug. There were, however, sixteen patients in this group of one hundred who showed skin eruptions during the course of treatment. These consisted, for the most part, of a maculo-papular rash starting on the elbows or knees and spreading, in some cases, to the trunk and face. In only five of these cases was there any complaint of itching and in only one of these was it severe. In three cases the rash was a diffuse, blotchy, deep red eruption slightly raised from the surrounding skin and giving the appearance of an intense measles rash. The mucous membranes were not affected. The rash was accompanied by a fever of 104° or higher in three cases, a slight elevation (100 - 101°) in ten cases, and no rise in temperature in the other three.

The rashes occurred on the eleventh day of administration of the drug in seven cases, and in the remaining nine anywhere from the fourteenth to the twenty-fourth day. Only two of the above rashes were severe enough to cause anxiety. They were both accompanied by edema of the face and extremities, and were in one case followed by hemorrhagic spots in a number of the lesions and

profuse peeling of the skin three or four weeks after the rash, or eight weeks after the onset of the scarlet fever. In eight of the sixteen cases, the drug was omitted and the remaining eight cases received the same dosage throughout the isolation period of four weeks. The rash disappeared in all cases but the process was distinctly quicker in those cases where the drug was withdrawn.

In the entire group of over 300 cases, twelve similar rashes and elevated temperatures were noted. It is worthy of note that in four cases in which the drug was withdrawn because of hyperpyrexia, rash, or both, the symptoms reappeared within twenty-four hours after resuming the dosage. In one case a deep red macular rash appeared within twenty-four hours after a dose of ten grains. In another case this process was repeated twice.

We have used this drug in several diseases, many with varied complications, in ages from one month to eighty-five years, in doses as high as 198 grains in one day, and as much as 5,000 grains over a period of weeks without serious reactions. In our experience, then, it is a comparatively safe drug.

Conclusions

1. The therapeutic effect of these drugs is at present considered due, in a large part, to its bacteriostatic action resulting in a slower rate of increase of the organisms and thus enabling the host to dispose of the bacteria faster than they are produced.
2. Our results were favorable in the more resistant and severe forms of cervical adenitis, acute suppurative otitis media, pharyngitis, tonsillitis, and peritonsillar abscess.
3. Its value, in our small group of toxic scarlet fever cases, is questionable.
4. Good results were obtained in the treatment of cellulitis in spite of one death.
5. In the treatment of erysipelas, the results were exceptionally good although there were four deaths. The progress of the infection was promptly arrested and the course markedly shortened.
6. The three cases of streptococcal meningitis are exceptional and offer most convincing evidence of the efficacy of the drug.
7. The results in epidemic meningitis have been equally good. With a corrected mortality rate, there would be 100% recovery.

8. In our experience, the effect of the drug in gonococcal infections has been somewhat indifferent. We have not had the good results reported by others.

9. No other drug should be administered with sulfanilamide except sodium bicarbonate.

10. Ambulatory patients receiving the drug should be warned against exposure to direct sunlight.

11. In the face of most toxic symptoms, the drug should be discontinued.

12. Our experience has been that sulfanilamide in adequate dosage is more effective than other forms of therapy in several conditions but not in all. It must be used with discretion and is not a panacea.

REFERENCES

(Continued from page 149)

27. Buchtel, H. A., and Cook, E. N.: The use of sulfanilamide in the treatment of urinary infections. *Proc. Staff Meet. Mayo Clin.* 12:444-447, 1937.
28. Southworth, H.: Acidosis associated with administration of para-amino-benzene-Sulfonamide (prontylin). *Proc. Soc. Exper. Biol. & Med.* 36:58-61, 1937.
29. Marshall, E. K., Jr., and Walzl, E. M.: On cyanosis from sulfanilamide. *Bull. Johns Hopkins Hosp.* 61:140-144, 1937.
30. Colebrook, L., and Kenny, M.: Treatment of human puerperal infections, and of experimental infections in mice, with prontosil. *Lancet* 1:1279-1286, 1936.
31. Colebrook, L., and Kenny, M.: Treatment with prontosil of puerperal infections due to hemolytic streptococci. *Lancet* 2:1319-1322, 1936.
32. Paton, J. P. J., and Eaton, J. C.: Sulphaemoglobinaemia and methaemoglobinaemia following administration of p-aminobenzene-sulphonamide. *Lancet* 1:1159-1162, 1937.
33. Frost, L. D. B.: Sulphaemoglobinaemia following anti-streptococcal chemotherapy. *Lancet* 1:510, 1937.
34. Archer, H. E., and Discombe, G.: Sulphaemoglobinaemia: its cause and prevention, with special reference to treatment with sulphanilamide. *Lancet* 2:432-435, 1937.
35. Colebrook, L., and Purdie, A. W.: Treatment of 106 cases of puerperal fever by sulphanilamide (streptocide). *Lancet* 2:1237-1291, 1937.
36. Harvey, A. M., and Janeway, C. A.: Development of acute hemolytic anemia during the administration of sulfanilamide (para-amino-benzenesulfonamide). *J. A. M. A.* 109: 12-16, 1937.
37. Borst, J. G. G.: Death from agranulocytosis after treatment with prontosil flavum. *Lancet* 1:1519-1520, 1937.
38. Young, C. J.: Agranulocytosis and para-amino-benzene-sulphonamide. *Brit. M. J.* 2:105-106, 1937.
39. Schwartz, W. F., Garvin, C. F., and Kolesky, S.: Fatal Granulocytopenia from sulfanilamide. *J. A. M. A.* 110:368-370, 1938.
40. McIntosh, R.; Wilcox, D. A., and Wright, F. H.: Results of sulfanilamide treatment at Babies Hospital, New York City; survey of 58 cases observed prior to June 10, 1937. *J. Pediat.* 11:167-182, 1937.
41. Kohn, S. E.: Acute hemolytic anemia during treatment with sulfanilamide. *J. A. M. A.* 109:1005-1006, 1937.
42. Jennings, G. H., and Southwell-Sander, G.: Anaemia and agranulocytosis during sulphanilamide therapy. *Lancet* 2:898-901, 1937.
43. Hageman, P. O., and Blake, F. G.: A specific febrile reaction to sulfanilamide; drug fever. *J. A. M. A.* 109: 642-646, 1937.
44. Schwenker, F. F., and Gelman, S.: Sulfanilamide rash. *Bull. Johns Hopkins Hosp.* 61:136-139, 1937.
45. Brunsting, L. A.: Sulfanilamide dermatitis: question of relation to photosensitivity. *Proc. Staff Meet. Mayo Clin.* 12:614-616, 1937.
46. Newman, B. A., and Sharlit, H.: A photosensitizing agent of the skin. *J. A. M. A.* 109:1036-1037, 1937.
47. Cannon, P. R.: Pathologic effects following the ingestion of diethylene glycol, elixir of sulfanilamide-Masengill, "synthetic" elixir of sulfanilamide and sulfanilamide alone. *J. A. M. A.* 109: 1536-1537, 1937.
48. Flexner, M.: Sulfanilamide, a survey. *Ky. Med. J.* 35:597, 1937.
49. Medical News: Limit sale of sulfanilamide. *J. A. M. A.* 109: 1729, 1937.
50. Sale of sulfanilamide restricted. *Quar. Bull., N. Y. C. Dept. of Health*: 5:111, 1937.
51. Fitch, W. K.: The nomenclature and dosage of new anti-streptococcal preparations. *Practitioner* 139: 680-688, 1937.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,
REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912,
AND MARCH 3, 1933
of *Rhode Island Medical Journal*, published monthly at Providence,
Rhode Island, for October, 1938.
State of Rhode Island } ss.
County of Providence }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Albert H. Miller, M.D., who, having been duly sworn according to law, deposes and says that he is the Managing Editor of the *Rhode Island Medical Journal*, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Rhode Island Medical Society, 106 Francis Street; Managing Editor, Albert H. Miller, M.D., 106 Francis Street.

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3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

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ALBERT H. MILLER, M.D.

Sworn to and subscribed before me this 29th day of September, 1938.

[SEAL.]

JAMES B. LITTLEFIELD, Notary Public.

(My commission expires June 30, 1941.)

THE RHODE ISLAND MEDICAL JOURNAL

Medical Library Building
106 Francis Street, Providence, R. I.

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SULFANILAMIDE

Elsewhere in this issue of the JOURNAL is the final paper in a symposium on Sulfanilamide which was presented before the Providence Medical Association last April. It is felt by the Editors that these articles deserve careful reading by every physician in this community. The article by Dr. West should be of particular interest, because in it he deals with the toxic manifestations of sulfanilamide.

It was only two short years ago that the profession first learned of this new therapeutic aid. The dramatic response which occurs in certain infections is as amazing to us today as it was then. As a result, some physicians have been inclined to use it freely in conditions in which there is no clear-cut indication for its use. There are reports in the literature of untoward reactions, and, in some cases, tragic consequences from its legitimate administration. All the more reason, therefore, that we should learn all we can of the pharmacologic action of this chemical, the better to recognize those side actions that may inadvertently occur under its proper administration. Dr. West has shown us in what conditions we should give sulfanilamide and has clearly pointed out the toxic manifestations that might occur. It is up to the physician to obey the old precept: "Forewarned, forearmed."

THE COMMON COLD

Now that the days are becoming shorter and chillier we are reminded that the time is fast approaching when acute disease of the respiratory tract becomes more of a problem than at any other time of the year. Statistical studies have shown that the lower the mean temperature the greater the incidence of the common cold and of influenza and pneumonia.

The importance of the common cold is not due to its prevalence only, for when uncomplicated it is an annoying but rather insignificant malady, but to the fact that it is seldom uncomplicated and is usually the starting point for pharyngitis, laryngitis, trachitis, sinusitis, tonsillitis, bronchitis or even in some instances pneumonia. Recent research has pointed to the probability, now rather definitely established for influenza, that common colds are caused by a filterable virus. It is beyond question transmitted from person to person like other infectious diseases. This is borne out by the common experience of seeing a "cold" appear in one after another of the members of a family. What then, one may ask, of the traditional idea that one "catches cold" by chilling his body surface—as for example when he sits about with wet feet or in a draught. We must admit the importance of this consideration and the answer is that by chilling the body surface we cause reflex changes in the blood supply of the mucous membranes of the nose and throat and both locally and generally reduce resistance to infection. Colds, if uncomplicated, probably last not more than three or four days. The congestion of the the nasal membranes with discharge, the initial sore throat, which may or may not occur, and the general feeling of discomfort and lassitude are familiar to all. The one fact, however, that is of real importance and that has been amply substantiated by research is that in the presence of a cold other micro-organisms of disease become much more active and may go on to produce inflammation of various parts of the breathing apparatus often with serious results.

Treatment of colds is very unsatisfactory. It is probable that they will, if uncomplicated, run a short course in spite of any treatment now known although beyond a doubt certain measures tend to relieve symptoms and make them more bearable. Hot baths, hot foot baths, keeping the body warm, hot applications or massage to the back and neck are all helpful. The early use of mild antiseptics, especially the silver preparations argyrol, neosilvol and others have their advocates but it must be remembered that swallowing a large amounts of these substances, as often occurs in the case of children treated by over-enthusiastic mothers, may result in the deposition of silver salts under the skin especially in the face and give rise to the permanent leaden graying of the complexion known as "argyria." The use of substances which shrink the membranes of the nose and give relief from the discharge or coryza must be undertaken with cau-

tion as over-use may produce an instability of the nasal blood vessels leading to vaso-motor rhinitis. The milder salicylate drugs, of which acetyl salicylic acid is the commonest, make the symptoms of a cold easier to bear but probably have no effect whatever on its course. Bicarbonate of soda if taken with them makes them perhaps less irritating to the stomach.

Rhode Island Hospital REUNION OF FORMER INTERNS

The reunion of former interns of the Rhode Island Hospital which scored such a success five years ago was repeated on Friday and Saturday, September 9 and 10, 1938. The total registration was 272. Sixty-six former interns came from out of town. Dr. J. Edgar Paullin of Atlanta, Georgia, came the greatest distance. Dr. Gardner W. Allen of Boston, Massachusetts, was held in honor as the earliest graduate present.

Dr. Herman C. Pitts was the General Chairman. Dr. Elihu S. Wing arranged the program. Dr. Bertram H. Buxton was Chairman of the Entertainment Committee.

The morning programs were designed to demonstrate progress in the past five years. In the operating rooms there were operative clinics by the surgical and gynecological departments and the departments of eye, ear, nose and throat. Demonstrations were staged in the departments of X-ray, physiotherapy, pathology, cardiology, bronchoscopy, in the fracture clinic and the gastro-intestinal clinic.

The Friday morning program at the Peters House Auditorium was opened by Dr. Harold G. Calder who showed cases from the pediatric service. Drs. Charles A. McDonald, Robert J. Williams, Howard Ives and Milton Korb showed a case of brain tumor with choked disk, a psuedo brain tumor, a case of gliostoma multiforme and brains prepared by Rossett's bakelite process. Drs. Carl D. Sawyer, F. Ronchese and Philip Batchelder showed cases from the dermatologic service:—syphilis, epithelioma adenoides cystica, neuro-fibromatosis, lymphangioma telangiectasis. A practical demonstration of electro-encephalography in a case of petit mal by Dr. Herbert Jasper was introduced by Dr. Arthur H. Ruggles. Drs. Alex. M. Burgess and Palmer Congdon demonstrated the value of 95% oxygen

in various conditions, especially in subcutaneous emphysema. Dr. Michael L. Mullaney illustrated some dental conditions of medical interest with lantern slides. Dr. Kalei K. Gregory reported 103 cases of cerebro-spinal meningitis from the Charles V. Chapin Hospital with a mortality of 38.8 per cent. Dr. William P. Buffum spoke briefly on allergic factors in children. Dr. Walter Weigner spoke on insulin shock in mental disease, Dr. Charles F. Gormly on rabbit sera in pneumonia. From the Thoracic Clinic, Drs. Halsey DeWolf and Philip Batchelder showed a case of Hodgkins Disease affecting axillary and mediastinal glands, treated with X-ray with manifest improvement. Dr. William P. Davis showed a case of pulmonary abscess illustrating the steps in treatment.

At 12:00 noon, the Tumor Clinic was introduced by Dr. Herman C. Pitts. Dr. B. Earl Clarke and associates showed the following cases:—Ewing's tumor of the temporal region, extra-osseous osteogenic sarcoma, Paget's Disease of the nipple in a young woman of thirty-three, mixed tumor of the parotid, zanthomatosis, neurogenic sarcoma of the neck.

At 1:00 P. M. luncheon was served in the Aldrich House, following which a group picture was taken in front of Ward F.

The Friday afternoon program was given in the Aldrich House Auditorium. It consisted of papers by visiting former interns. The General Chairman presided. The program:—

1. Detachment of the Retina (Moving Picture Demonstration)
Dr. JOHN P. MACNIE, Instructor in Ophthalmology, College of Physicians and Surgeons, Columbia University, New York City, New York
Discussion by Dr. THOMAS F. CAPELES, Hale Hospital Staff, Haverhill, Mass.
2. Peaks and Pioneers in the History of the Thyroid
Dr. NAT H. COPENHAVER, formerly with the Mayo Clinic, now Surgeon to The King's Mountain Hospital, Bristol, Tennessee
Discussion by Dr. CARL J. GEIGER, Assistant Professor of Medicine, Syracuse University, Syracuse, New York
3. Nasal Allergy
Dr. HAROLD G. TOBEY, Instructor in Laryngology, Harvard Medical School, Boston, Massachusetts

Discussion by DR. DAVIS T. GALLISON,
Instructor in Medicine at Tufts Medical
School, Boston, Massachusetts

4. Some Aspects of Non-Tuberculosis Thoracic
Surgery (Lantern Demonstration)

DR. REEVE H. BETTS, Associated with DR.
RICHARD OVERHOLT, Boston, Mass.

Discussion by DRS. RALPH A. GOODWIN and
PAT H. IMES

5. Pathology and Treatment of Ante Partum Hem-
orrhage (Lantern Demonstration)

DR. ARTHUR H. MORSE, Professor of Ob-
stetrics, Yale School of Medicine, New
Haven, Connecticut

Discussion by DR. DELOS J. BRISTOL, JR., In-
structor in Obstetrics in the Harvard Medi-
cal School, Boston, Massachusetts

6. Cardiovascular Syphilis (Lantern Demonstra-
tion)

DR. JAMES E. PAULLIN, Professor of Clini-
cal Medicine, Emory University Medical
School, Atlanta, Georgia

Discussion by DRS. W. WALTER STREET, ASSO-
ciate Professor of Medicine, Syracuse Uni-
versity, New York; and B. EARL CLARKE

The Friday evening program was held in the Aldrich House Auditorium. The speakers were Dr. Albert D. Mead, President of Board of Trustees; Hon. Jesse H. Metcalf, President Emeritus, Board of Trustees; Dr. William O. Rice, Superintendent; Dr. John M. Peters, Superintendent Emeritus; Dr. Charles O. Cook, President of Staff Association. After this program, Mr. Harry Sheer entertained the meeting with some mystifying feats of legerdemain. A smoker held at Peters House completed the festivities of the day.

An exhibit of the works and letters of Usher Parsons, M.D., in the Peters House, arranged by Dr. Wilfred Pickles, attracted deserved interest.

Saturday morning, operative clinics were again held in the operating rooms. At the Peters House Auditorium the program was opened by Dr. Russell S. Bray who demonstrated the flexible gastroscope. Dr. Albert H. Miller gave a demonstration on posture in anesthesia, illustrated with lantern slides. Dr. Frank B. Cutts spoke on gout, Dr. Henry E. Utter spoke on toxoid in tetanus, Dr. Albert A. Barrows described different methods of surgical treatment of infections of the hand. Drs. Albert L. Midgley and Francis H. Chafee demonstrated

with lantern slides the progress of a fatal case of noma. Dr. Anthony V. Migliaccio read "Early versus Delayed Operation in Acute Cholecystitis—A Critical Review of Cases at the Rhode Island Hospital." Dr. Eric Stone showed motion pictures in color, demonstrating supra-pubic cystotomy by the Kidd Method. Drs. Russell O. Bowman and Herman C. Pitts spoke on cancer research at the Rhode Island Hospital. Dr. George W. Waterman made a further report of radium treatment of the cervix. Dr. Russell R. Hunt showed X-ray aids in diagnosis in pregnancy. Dr. Paul Appleton gave a motion picture demonstration of resuscitation of the new-born.

At 12:00 noon a Clinical-pathologic Conference was conducted by Dr. B. Earl Clarke. Cases were presented by Drs. Charles O. Cooke and Cecil C. Dustin. The notes on this conference will be printed in a later number of the *Journal*.

Saturday afternoon, an old-fashioned Rhode Island Clambake was held at the Squantum Club, providing a proper termination for this successful reunion.

Dr. Donald J. Flanagan of Somersworth, New Hampshire, on July 1st became Resident Physician at the Jane Brown Hospital. Dr. Flanagan is a graduate of New York University and Boston University Medical School. He was intern for two years at the Binghamton City Hospital, Binghamton, New York.

August 15th, Dr. John Morrison of Phillipsburg, New Jersey, began a two years' internship. Dr. Morrison is from Dartmouth College and Dartmouth Medical. He is a graduate of Pennsylvania Medical School. Previous to coming to the Rhode Island Hospital, Dr. Morrison interned for one month at Providence Lying-In Hospital.

July 1st, Dr. Henry Miller of New York City began a year's residency in the electrocardiograph department. Dr. Miller is a graduate of New York University and University of California Medical School. He was intern and resident in medicine in San Francisco Hospital for two years before coming to Rhode Island.

July 1st Dr. Samuel Bachrach of Maynard, Massachusetts, began a one-year pathological internship. Dr. Bachrach is a graduate of University of Maine and Tufts Medical School.

Dr. Thomas A. Martin, who spent two years as intern at the Rhode Island Hospital and at the Lying-In Hospital, from November 1st, 1937, to May 31st, 1938, opened an office on July 1st at 181 Smith Street for the general practise of medicine.

Dr. Lee G. Sannella, who interned at the Rhode Island Hospital from 1935 to 1937 and was Night Superintendent for sixteen months, opened an office July 1st at 195 Thayer Street, Providence.

Dr. and Mrs. Gilmore W. Soule of Rockland, Maine, announce the arrival of a son, Daniel Weston, on Sept. 7th, 1938.

Dr. Ralph D. Richardson, who interned at the Rhode Island Hospital 1935 to 1937 and at the Massachusetts Memorial Hospitals for one year, was Night Superintendent at the Rhode Island Hospital from July 1st to September 16th. On October 1st Dr. Richardson expects to go to the Mayo Clinic on a Fellowship in Surgery.

July 1st Dr. Edmond Brown Sinclair, who has been resident physician at the Jane Brown Memorial Hospital for a year, became assistant resident in pediatrics at St. Luke's Hospital in New York City.

July 1st, Dr. Carlton Ould of Roanoke, Virginia, began a one year's pathological internship. Dr. Ould attended Roanoke College and is a graduate of Duke University and Duke Medical School. Previous to coming here, Dr. Ould interned for fifteen months at Duke Hospital in Durham, North Carolina.

July 1st, Dr. G. Edward Crane opened an office for the practice of Orthopedic Surgery with Fractures, at 223 Thayer Street. Dr. Crane interned for two years on the Fracture and Orthopedic Service. He is a graduate of Brown University and Tufts Medical College. His home is at 129 Nelson Street, Providence, R. I.

LOCAL EVENTS

Dr. Samuel Drury Clark has opened an office for the General Practice of Medicine at 28 George Street, Providence.

September 13—Dr. F. Ronchese read a paper on "Infra-red Photography in the Diagnosis of Vascular Tumors" at the 17th American Congress of Physical Therapy in Chicago.

Dr. Murray S. Danforth entertained the Amos Throop Medical Club on October 11. His subject was "Treatment of Flail Joints Following Infantile Paralysis."

Dr. George L. Shattuck entertained the Friday Night Medical Club on October 21. Dr. Charles P. Fitzpatrick read a paper on "The Relation of Epilepsy to Schizophrenia."

October 25, Dr. Edmund A. Sayer addressed the regular monthly meeting of the General Staff of the Homeopathic Hospital of Rhode Island on "The Evaluation of Antiseptics in Urinary Infections."

October 27—At the regular quarterly meeting of the Rhode Island Medico-Legal Society, held at the Medical Library, Dr. J. W. Battershall, President of the Massachusetts Medico-Legal Society, spoke on "The Medical Examiner."

RHODE ISLAND MEDICAL SOCIETY LECTURES AT THE MEDICAL LIBRARY Sunday afternoons at 3:30

November 6, Dr. Clifton B. Leech. "Lessons in Heart Disease."

November 13, Dr. James H. Fagan. "Diseases of the Thyroid Gland."

November 20, Dr. William P. Buffum. "Keeping Your Child Healthy."

November 27, Dr. John F. Kenney. "Medical Diagnosis from a Laboratory Standpoint." Demonstration of Anatomical Material and Diagnostic Instruments.

PAWTUCKET MEDICAL ASSOCIATION PROGRAM FOR 1938-1939

October 20—William Dameshek, M.D., Boston, Mass.: "Anemia—Physiology and Treatment." (Lantern Slides.)

November 17—Sylvester McGinn, M.D., Boston, Mass.: "Modern Treatment of Congestive Heart Failure." (Lantern Slides.)

December 15—

January 19—Irving J. Walker, M.D., Boston, Mass.: "Clinical Aspects of Water Balance."

February 16—Charles F. McKham, M.D., Boston, Mass.: "Immunity and Susceptibility to Disease in Infants."

March 16—Annual Meeting and Banquet. Speaker to be announced.

OBITUARY

CHARLES HENRY LEONARD, M.D.

Dr. Charles Henry Leonard died at his home in Providence, March 19, 1938. He had passed the age of 96. He was born at Madison, Indiana, December 29, 1841. Although his birthplace was in Indiana, his parents having lived there for a few years, he was a New England Yankee, his forbears and he himself spanning three centuries here. After attending school at Southbridge, Massachusetts, and at Williston Academy, he entered Yale with the class of 1864, but at the end of his sophomore year he enlisted in Company A, 45th Massachusetts Volunteer Militia and served in North Carolina, returning home with typhoid fever. He then re-entered Yale and graduated with the class of 1865, being the commencement orator and a member of Phi Beta Kappa. After this, he graduated, in 1868, from the College of Physicians and Surgeons, Columbia University. His internship was served at Charity Hospital, New York City. In 1871 he received the degree of M.A. from Yale.

Settling in Providence in 1870, he practiced here

until 1925 and was at different times Physician to Providence Dispensary, Physician to Providence Reform School, Pathologist and Admitting Physician to Rhode Island Hospital, Coroner, Attending Physician to Providence Lying-In Hospital. The most interesting aspect of his long practice of medicine was his tremendous experience in vaccination against small-pox. Starting this in 1870 he was in charge of public vaccination for the City of Providence from 1881 to 1933.

In this period of 63 years he performed over 170,000 vaccinations. Joining the Rhode Island Medical Society and the Providence Medical Association as soon as he entered practice, he was Treasurer of the State Society 1878-88 and President of the local Association in 1889 and 1890. All but the youngest members of our Association remember well how until the last three years of his life, he was the most faithful attendant at our meetings, sitting always in the front row and taking keen interest in the proceedings. In December, 1932, when he was 91, a surprise birthday party was given him at the conclusion of our meeting and he cut a birthday cake.

It was Dr. Leonard's nature to enter enthusiastically into those matters that interested him. Botany was one of these. Walking frequently by the house of the writer he would enter briskly into the garden, select some plant, give a short informative talk about it and hasten away again. The tupelo or pepperidge tree was an especial hobby of his.

Dr. Leonard was a life director of the American Bible Society, a life member of the Board of Foreign Missions and for 35 years deacon of the Union Congregational Church. Prominent in the Grand Army of the Republic, he joined Slocum Post in 1891 and was the last veteran left in Providence. With his beard and full uniform of the order, he made a striking picture, which will linger in our memories.

Two daughters survive Dr. Leonard — Miss Grace F. and Miss Mary B. Leonard.

PETER PINEO CHASE, M.D.

RECENT BOOKS

THE HEART IN PREGNANCY. By Julius Jensen, Ph.D. in medicine, M.R.C.S. (England), L.R.C.P. (London), pp. 371, Cloth, \$5.50, The C. V. Mosby Company, St. Louis, 1938.

THE HEART IN PREGNANCY by Dr. Jensen should fulfill a very definite need in the field of obstetrics with respect to the heart. Its first twenty-eight chapters deal with the mechanics of this problem; the last twenty-three chapters with abnormal heart action and organic diseases of the heart with reference to pregnancy.

It is a book for the general practitioner, internist, and cardiologist as well as the obstetrician for it intimately touches upon their every day experiences. The carefulness with which Dr. Jensen has proceeded is shown by the fact

that he spent over four years recording data from his extensive observations and consulted over 1,000 authorities in the field of literature from all parts of the world. Up to the publication of this book, the subject of the heart in pregnancy was largely confused in the voluminous literature by differences of opinion. Dr. Jensen presents the best of these opinions and then draws his conclusions based on his own exhaustive studies.

The all important subject of rheumatic heart disease in pregnancy is very thoroughly discussed beginning with statistical evidence in detail with conclusions. He then proceeds to diagnosis and prognosis following with a very careful survey of congestive failure in pregnancy. Factors such as age, type, and effect of heart lesions found are discussed with the management of these cases including especial reference to interruption of pregnancy not omitting methods of delivery with abundant statistical data quoted. A chapter on anaesthesia for cardiacs in obstetrical cases is given and discussed with conclusions and a presentation of methods used at the St. Louis Maternity Hospital so successfully.

Bacterial endocarditis, syphilis, congenital heart disease, degenerative heart disease, and hearts influenced by chest deformity and thyroid disease are well covered. Dr. Jensen frequently resorts to case reports to exemplify his points.

When to interfere and not to interfere in pregnancy complicated by heart disease is often a difficult problem. I am sure this book will make it much easier for those faced with this decision. Certainly this very comprehensive book should be in the hands of all those dealing with these problems. Finally, I would like to quote from the foreword of the book by Dr. David Barr, Associate Editor of the *Annals of Internal Medicine* and Regent of the American College of Physicians: "From the assembled data it appears that many of the dogmas of the past were without sound foundation. Review of the evidence as a whole leads to considerable optimism and the conclusion that many cardiac patients, even those with relatively extensive organic damage, may by adequate protection and medical care, complete pregnancy and bear children without evident permanent damage."

ELIHU S. WING, M.D.

PNEUMONIA AND SERUM THERAPY. By Frederick T. Lord, M.D., and Roderick Heffron, M.D., pp. 148, Cloth, \$1.00, The Commonwealth Fund, New York, 1938.

This handbook, the senior author of which is a professor emeritus of Harvard Medical School in clinical medicine and an authority on diseases of the chest, may be regarded at once as official and dependable. It is a revision of "Lobar Pneumonia and Serum Therapy," published in 1936 by the same authors. The change of title seemed indicated, in view of the fact that now specific serum therapy has been made available and effective for atypical cases of lobar pneumonia and for bronchopneumonia as well. One can rest assured that the procedures advocated have been soundly tested; their value substantiated in large series of cases.

The present edition of 130 pages includes valuable additional data, compiled since 1936. This means the latest facts

pertaining to dosage; a sane discussion and evaluation of rabbit antiserum; and the results of specific treatment not alone in pneumonia of Types I and II, but in Types V, VII, VIII, and XIV as well. It contains, moreover, chapters on the clinical diagnosis of pneumonia, the factors influencing recovery, the selection of cases for treatment with specific antiserum, and methods of typing the pneumococcus.

Since medical therapy today is so much more concerned with the employment of sera of various kinds, it becomes the duty of the practitioner to have at his finger-tips an adequate knowledge of satisfactory dosages; accepted, proven methods of administration; the precautions to be employed and the tests for sensitivity and their proper interpretation; the kind of reactions, their treatment, and the influence of these reactions on further, continued serum administration and dosage. All the above can be easily learned from this volume. As a matter of fact, a regular fool-proof ritual for the administration of pneumococcus antiserum is diagrammatically represented.

The Massachusetts pneumonia study under the Commonwealth Fund quite definitely revealed that antipneumococcus serum could be successfully administered under the conditions set forth in this book by the general practitioner at large. Thus, during the course of the study, 1100 physicians employed it in over 1700 patients. Moreover, the success obtained with antisera of Types I and II and the effectiveness of antisera for some of the higher types has extended the applicability of serum treatment in pneumonia and bronchopneumonia, as never before. Hence, the incorporation of an outline for the organization of pneumonia control programs as community projects is both warranted and timely.

We, therefore, whole-heartedly advocate "Pneumonia and Serum Therapy" is a necessary volume for every general practitioner, as well as a concise, reliable, and up-to-date review of the subject for the internist.

JOHN S. DZIOB, M.D.

Every doctor in New England is cordially invited to attend the New England Postgraduate Assembly to be held in Boston on November 15 and 16, 1938. The registration fee is three dollars.

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NEW ENGLAND POSTGRADUATE ASSEMBLY PROGRAM

TUESDAY, NOVEMBER 15

MORNING SESSION

Presiding Chairman: Dr. Frank R. Ober.

- 10:00 Dr. Hubley R. Owen. "What Are the Duties and Responsibilities of the General Practitioner in the Treatment of Fractures? Unrecognized Fractures."
- 10:30 Dr. Alvah H. Gordon. "The Physician's Interest in Gallbladder Disease."
- 11:00 Dr. Harvey B. Stone. "Preoperative and Postoperative Preparation of Surgical Patients."
- 11:30 Dr. Perrin H. Long. "The Practical Interpretation of Laboratory Bacteriological and Immunological Diagnoses in Relation to Infectious Diseases."

AFTERNOON SESSION

Presiding Chairman: Dr. George R. Minot.

- 2:00 Dr. Hubley R. Owen. "Transportation of Injured and Emergency Treatment of Fractures with Special Reference to Fractures of the Long Bones and Fractures of the Spine."
- 2:30 Dr. Francis G. Blake. "The Value of Antitoxin in Scarlet Fever."
- 3:00 Dr. Louis A. Buie. "Office Methods of Diagnosis of Anal Diseases."
- 3:30 Dr. Louis H. Nahum. "The Etiology and Treatment of the Cardiac Arrhythmias."
- 4:00 Dr. Robert T. Frank. "Endocrinology as Now Practiced."
- 4:30 Dr. William L. Estes, Jr. "Acute Traumatic Lesions of the Abdomen."
- 7:00 Dinner. Speakers, Dr. Warren F. Draper and Dr. Roger I. Lee.

WEDNESDAY, NOVEMBER 16

MORNING SESSION

Presiding Chairman: Dr. Elliott P. Joslin.

- 9:00 Dr. Francis G. Blake. "The Importance of Time in Serum Therapy."
- 9:30 Dr. William L. Estes, Jr. "Treatment of Open Wounds and the Use of Antiseptics."
- 10:00 Dr. Alvah H. Gordon. "Mental Complications in Heart Disease."
- 10:30 Dr. Robert T. Frank. "The Female Sex Hormones."
- 11:00 Dr. Benjamin P. Watson. "When Is Caesarean Section Necessary and When Is It Unjustified?"
- 11:30 Dr. Perrin H. Long. "The Clinical Use of Sulfanilamide in the Treatment of Bacterial Infections."
- 12:00 Dr. Harvey B. Stone. "Symptoms and Signs of Intestinal Obstruction."

AFTERNOON SESSION

Presiding Chairman: Dr. Arthur W. Allen.

- 2:00 Dr. Louis A. Buie. "Treatment of Common Anal Diseases."
- 2:30 Dr. Alvah H. Gordon. "The Diagnosis of Diseases with Coincident Enlargement of the Liver and the Spleen."
- 3:00 Dr. Benjamin P. Watson. "The Treatment of Delayed Labor."
- 3:30 Dr. Perrin H. Long. "The Uses of Newer Derivatives of Sulfanilamide in the Treatment of Bacterial Infections."
- 4:00 Dr. Hubley R. Owen. "Skull Fractures and Concussion."
- 4:30 Dr. Louis A. Buie. "Moving Pictures."



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GASTRO-INTESTINAL EFFECTS

MYERSON, A. and RITVO, M.: Benzedrine Sulfate and Its Value in Spasm of the Gastro-Intestinal Tract—*J.A.M.A.*, 107:24, 1936.

POST-ENCEPHALITIC PARKINSONISM

DAVIS, P. L. and STEWART, W. B.: The Use of Benzedrine Sulfate in Post-Encephalitic Parkinsonism—*J.A.M.A.*, 110:1890, 1938.

DEPRESSION

WILBUR, D. L.; MACLEAN, A. R. and ALLEN, E. V.: Clinical Observations on the Effect of Benzedrine Sulphate—*J.A.M.A.*, 109:549, 1937.

WOOLLEY, L. F.: The Clinical Effects of Benzedrine Sulphate in Mental Patients with Retarded Activity—*Psych. Quart.*, 12:66, 1938.

MISCELLANEOUS

REIFENSTEIN, E. C., JR. and DAVIDOFF, E.: The Treatment of Alcoholic Psychoses with Benzedrine Sulfate—*J.A.M.A.*, 110:1811, 1938.

HILL, J.: Benzedrine in Seasickness—*Brit. Med. Jour.*, ii:1109, 1937.

LESSES, M. F. and MYERSON, A.: Human Autonomic Pharmacology. XVI. Benzedrine Sulfate as an Aid in the Treatment of Obesity—*New Eng. J. Med.*, 218:119, 1938.

Present Status of Benzedrine Sulfate — Report of the Council on Pharmacy and Chemistry — *J.A.M.A.*, 109:2064, 1937.

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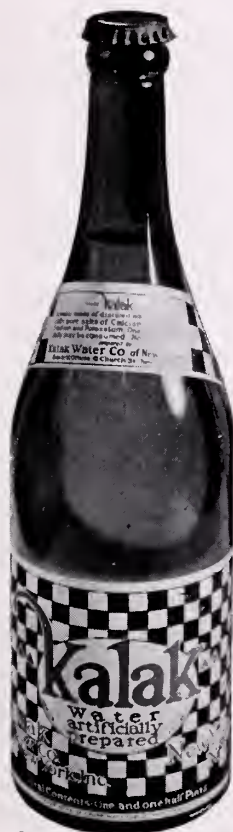
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quirement of the human adult for vitamin D is still not known (3). The International system of expressing vitamin D potency has been universally adopted; bioassay methods have been standardized (4); and last but not least, a high degree of standardization has been attained, not only in regard to the antirachitic potency of Vitamin D preparations, but also as to the extent to which the vitamin D contents of certain foods should be increased by the various means available (3).

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THE PATHOLOGY AND TREATMENT OF ANTE PARTUM HEMORRHAGE

ARTHUR H. MORSE, M.D.

PROFESSOR OF OBSTETRICS AND GYNECOLOGY
YALE SCHOOL OF MEDICINE

Excepting lacerations of the cervix, practically all varieties of ante partum hemorrhage are due to a premature partial, or complete detachment of the placenta either from a normal site of implantation in the cavity of the uterus, or from an abnormal site of implantation in the region of the internal os. This paper will not attempt a detailed discussion of the subject, but will deal briefly with the differential diagnosis of premature separation of the normally implanted placenta and placenta previa, and with certain other points which, because of their importance, seem to justify reiteration, and finally will outline the methods of treatment which have been employed in the Women's Clinic at Yale.

The type of bleeding in question may without warning become formidable in character, and for this reason it is generally accepted that women presenting this symptom be immediately admitted to a hospital equipped to care for such obstetrical complications. Of equal importance in the treatment of such patients are the determination of the site of bleeding, the control of hemorrhage, transfusions, and the method of delivery chosen in the individual case.

Three means for differential diagnosis are available to the clinician:—the history, and the findings upon abdominal, and upon vaginal examination. The history is frequently equivocal since bleeding—the outstanding symptom—is common to both placenta previa and premature separation. It is generally stated that the presence of placenta previa is announced by recurrent attacks of hemorrhage which become gradually more severe, but in a large proportion of cases the first loss of blood is profuse. The bleeding may arouse the patient from her sleep; in other instances it may be associated with

straining incident to coughing or sneezing. Generally the first hemorrhage occurs during the last trimester of pregnancy, although on the other hand there may be no loss of blood until the onset of labor. The bleeding is not associated with pain and this statement is also true in those instances of premature separation of the placenta associated with mild external bleeding. On the other hand abdominal pain is an outstanding symptom in women suffering from premature separation of the placenta with an extensive concealed hemorrhage. This pain frequently is intense and coliclike, and sometimes is associated with sudden, violent fetal movements which rapidly subside. Such a statement regarding the character of the fetal movements indicates almost certainly that the placental separation has caused the death of the fetus. If in either complication the loss of blood is excessive, the patient presents signs of anaemia and may be in a condition of profound shock.

Abdominal examination in patients with placenta previa shows nothing definitive, and the uterus will be found to be of the consistency usual in pregnancy. Similarly in the milder degrees of premature separation with external bleeding there is generally no outstanding change in the consistency of the uterus, although occasionally there is pain upon uterine palpation.

The abdominal picture in premature separation with concealed hemorrhage is wholly different. The uterus is of a characteristic ligneous consistency and often is abnormally distended as the result of hemorrhagic infiltration of the myometrium and of free bleeding into the uterine cavity. The fetal small parts are felt with difficulty, if at all, and the fetal heart beat is inaudible. In the absence of external bleeding, the characteristic pain mentioned above together with the ligneous consistency of the uterus are almost pathognomonic of premature separation of the placenta, and this diagnosis is assured if, in

From the Department of Obstetrics and Gynecology of Yale University School of Medicine.

Read at the Reunion of Former Interns of the Rhode Island Hospital, Providence, September 9-10, 1938.

addition, the patient presents evidences of anaemia and shock, which are often out of proportion to the quantity of blood loss.

The grave dangers associated with a vaginal examination in the possible presence of placenta previa cannot be too greatly stressed. Even though the loss of blood has been slight previous to hospitalization, the digital manipulation necessary on vaginal examination may be sufficient to cause further placental detachment and a sudden profuse hemorrhage. Therefore, no patient in whom placenta previa is suspected should be examined vaginally until all is in readiness for immediately controlling hemorrhage, inducing labor or emptying the uterus.

The vaginal examination is of importance in differentiating between premature separation with external bleeding and placenta previa. The diagnosis of the former abnormality is made positive by the presence of a cervix of normal consistency and the absence of placental tissue situated in the region of the internal os. In placenta previa, on the other hand, the cervix is usually softer and more succulent than is usual at this period of pregnancy. The cervical canal is generally sufficiently patulous to admit a finger and, excepting those instances in which the placenta is marginally implanted, a layer of spongy, boggy tissue is felt between the fetal head and the tip of the examining finger. When only the lower margin of the organ is inserted in the region of the internal os, it is generally impossible to palpate placental tissue until the cervix becomes more fully dilated.

Having determined whether the pregnancy is complicated by premature separation of the normally implanted placenta or by placenta previa, the next problem concerns the type of treatment which is to be employed. In this connection it is well to recall that the bleeding site in premature separation of the placenta is located in the cavity of the uterus. The placental detachment is inaugurated by hemorrhage into the basal decidua, and in the early stages consists of a decidual hematoma which brings about a separation and compression of portions of the placenta. In concealed hemorrhage blood accumulates in and distends the uterine cavity and myometrial hemorrhage with disassociation of muscle fibres may occur. Under such circumstances the normal hemostatic control of bleeding is in abeyance and satisfactory muscular contractions cannot occur until the uterus is emptied.

In placenta previa we are faced with bleeding from the vascular placental bed in the lower uterine segment. Moreover, the friability of the latter structure is notably increased by the invasion of chorionic villi. Carefully applied pressure will control the bleeding; injudicious attempts to bring about cervical dilatation will open venous sinuses and provoke increased bleeding.

There is no uniform viewpoint respecting the treatment of premature separation of the normally implanted placenta. It may be said, however, that no one type of treatment is applicable to all cases and that each patient should be regarded as an individual problem. When the hemorrhage is external infiltration of the myometrium is unlikely and the prognosis depends upon the severity of the bleeding. In milder degrees of separation, this is not enough to interfere with the fetal circulation and the complication may be without serious significance. We are accustomed to treat such patients conservatively so long as the bleeding is not acute and to permit labor to progress without interference beyond artificial rupture of the membranes and, perhaps, the administration of pitocin intranasally. On the other hand, we regard acute external or concealed internal hemorrhage as a clear indication for emptying the uterus without delay and, unless the patient is well advanced in the second stage of labor, we effect delivery by cesarean section. The abdominal approach seems clearly indicated when the hemorrhage is concealed, for it is impossible from abdominal palpation to determine the extent of hemorrhagic infiltration or to predict the ability of the uterus to contract satisfactorily following delivery. Whether the uterus is left in situ or is excised depends upon the appearance and the reaction of the uterine musculature. In about one out of every four cases the myometrial injury will have been so extensive as to prevent satisfactory contractions and the purplish uterus lies limp following the delivery of the fetus and placenta. We feel it unsafe to leave such an organ in situ and remove it by supravaginal hysterectomy. In other instances in which the uterus contracts satisfactorily we follow a conservative course and leave the organ in situ, being prepared to pack its cavity if postpartum bleeding ensues.

The treatment of placenta previa depends upon the general condition of the woman and her fetus upon entrance to the hospital, the type of placenta previa with which one has to deal, and the degree of

cervical dilation. If there has been a severe loss of blood and if upon admission the patient is in shock, morphia should be administered and a transfusion given before any attempts to effect delivery are begun. In those women in whom the placental insertion is marginal and the bleeding is slight, rupture of the membranes is frequently sufficient to inaugurate uterine contractions and bleeding will then be controlled by pressure of the advancing fetal head. In those rarer instances in which upon admission the cervix is fully dilated, labor may be terminated by the application of forceps or by version and extraction as is indicated in the individual case.

It is our experience that the majority of ward patients with placenta previa enter the hospital more or less shocked from the loss of blood, and with the cervix sufficiently dilated to admit two or more fingers with ease. Following the administration of morphia and a transfusion, we prefer in such patients to control the bleeding and to aid in the obliteration of the cervix by rupturing the membranes and introducing a Voorhees' bag to which, in some instances, a weight of two or three pounds is attached. The general condition of these patients and the progress of labor should be carefully supervised. Following the expulsion of the bag, the patient may be allowed to deliver spontaneously or, when the cervix is fully dilated, labor may be terminated by the application of forceps or by version and extraction, as is indicated in the individual case.

Hemorrhage can be similarly controlled by performing a version and bringing down the breech, which forms an effective tampon and so controls bleeding from the affected area. Munro Kerr designates this procedure as the "sheet anchor for practitioners in all countries and climes who are far removed from an obstetric hospital." Moreover, the man in general practice to whom a hospital may be inaccessible is unlikely to be equipped with rubber balloons, which are expensive and disintegrate rapidly, or with the instruments necessary for their introduction.

Some authorities advise external version rather than the intrauterine method of turning the fetus, since the former procedure causes less disturbance at the placental site and decreases the risk of infection. Whichever method is used, the placenta overlying the internal os should be punctured, a foot grasped, and the breech brought down where it acts as an effective tampon. In this connection it should

be emphasized that no attempts should be made to complete the extraction until the cervix is fully dilated because of the danger of lacerations, which may extend well beyond the cervix itself. A similar warning may be given respecting manual dilation, or any other rapid method of effacing the cervix, since, as was mentioned earlier, the structure is rendered exceedingly friable from the invasion of the chorionic elements of the placenta.

So far I have omitted abdominal cesarean section as a means of treating placenta previa, and I turn to this question concerning which there exists a notable difference of opinion. Since our experience is primarily with ward patients, most of whom are already in labor, we see very few whose condition, or that of the fetus, would justify an abdominal procedure. On the other hand, we have successfully employed cesarean section in certain cases with partial or complete placenta previa seen early in labor or with the cervix slightly more than two fingers dilated. Our choice of this procedure was decided by the satisfactory condition of the mother and fetus before operation. In some patients delivery has been effected by the classical operation—in others by a low cervical section. The latter operation, as has been noted by De Lee and others, offers certain advantages over the classical operation in which the body of the uterus is incised. Since the bleeding in placenta previa comes from the site of implantation in the lower uterine segment, and since there is no physiological hemostatic action in this portion of the uterus, it seems logical to incise at a point where the source of bleeding can be directly attacked. This is possible if a low cervical operation is done, and bleeding sinuses at the site of implantation can be controlled by suturing if necessary. It should be noted, however, that the low cervical section presupposes a considerable degree of skill in pelvic surgery and had best not be undertaken by the occasional operator in this field.

To recapitulate:—Patients suffering from ante partum hemorrhage ought immediately to be hospitalized since the bleeding, although slight in the beginning, may without warning become formidable. Transfusions should be freely employed when indicated. The site of the bleeding should be accurately determined and the method of treatment chosen which will most effectively control the loss of blood and permit delivery with the least degree of shock.

PEAKS AND PIONEERS IN THE HISTORY OF THE THYROID

NAT H. COPENHAVER, M.D.

BRISTOL, TENNESSEE

Goiter or hypertrophy of the thyroid gland has been recognized for centuries, but due to the more recent discoveries in bio-chemistry, physiology and in treatment of goiter, we are prone to think of hyperthyroidism, myxedema and cretinism as recent discoveries in the field of medicine. Not only is the history of goiter interesting, but to fully appreciate what is really new and what advances have been made, a review of the work of our predecessors becomes essential. Moreover, a review of the history of goiter is a review of the history of the human race.

The Arthorva Veda, an ancient Hindo collection of incantations dating from 2000 B. C., contains extensive forms of exorcism for goiter. Caesar mentions the big neck as a characteristic of the Gauls. Even the expression, cretin, originated with the Romans and shows their familiarity with the disease.

Paracelsus, in the fifteenth century, was the first to emphasize the relationship between goiter and cretinism. The earliest real information on cretinism dates from this time. In 1798, about three centuries later, and again in 1800, Fodere published essays on goiter and cretinism.

The extent to which goiter prevails throughout the world is seldom appreciated. Few countries are free from endemic districts. There are localities where the disease is very common, and these are known as the goiter districts. Probably the best known of these districts is in Southern Europe comprising, Southern Germany, Switzerland, Eastern France and Northern Italy.

The frequency of goiter in North America has been known for a century. In 1800, Barton published a monograph on the occurrence of goiter among the American Indians living along Lake Ontario and Lake Erie. Munson mentions the same condition among Indians living in the Rocky Mountain States. Osler has emphasized the frequency of goiter in Ontario. Marine, more recently, finds the disease widely disseminated along the Great Lakes, where it occurs not only in human beings but also in animals.

France, in 1864, appointed a commission to study goiter. This commission reported ten years later, in 1874, that they found one half million inhabitants of France suffering from goiter and 120,000 cretins and cretanoid idiots. Switzerland and Italy later appointed similar commissions. As to the cause of goiter, the French Commission seemed to establish as a scientific fact the popular idea that goiter is a water borne disease. Most of the scientific opinion in this country has been that it is a deficiency disease. Following, in the fifteenth century, the discovery by Paracelsus of the relationship existing between goiter and cretinism, Parry in 1825, three centuries later, pointed out the connection between goiter and enlargement of the heart, associated with palpitation and exophthalmos. Basedow's description of the same syndrome appeared in 1840. While these observers made important contributions, none interpreted their findings in terms of the function of the thyroid gland. Sir William Gull, in 1874, published the first important observation on the functions of the thyroid. At this time the clinical complex of Myxedema (Gull's Disease) was described in detail and interpreted as a lack of function of the thyroid.

In 1913, Plummer suggested separation of the hyperthyroid states into two clinical entities. Exophthalmic goiter he associated with diffuse hyperplasia of the thyroid gland, while a condition in which there was no diffuse hypertrophy or hyperplasia of the thyroid gland and a different physiologic status, he considered to be in another group in which the hyperfunction originates in a tumor of the gland. The latter group he has called toxic adenoma or adenomatous goiter with hyperfunction. The question of classification has always been a disputed one. Means recognizes exophthalmic goiter or diffuse hyperplasia of the gland. He also admits cases fulfilling the description of Plummer's type and the points in which they differ from a classic Graves' disease, but because of so many intermediate types possessing features of each type, prefers to group them all under one group, "Toxic Goiter." Plummer also improved Parry's work, recognized patients suffering from cardiac injury as suffering from hyperthyroidism and found that

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relief from hyperthyroidism was followed by improvement in the cardiac status.

The Chinese, 4000 years ago, and the early Greeks, treated goiter by internal administration of the ash of burned sea sponges, not knowing that it contained iodine. Iodine made from seaweed was discovered in 1812. Iodine was first knowingly used in the treatment of goiter by Coindet in 1820. Since then it has been widely used by various methods; inhalations, internal administration and cutaneous application. In 1907, Marine established the fact that iodine is necessary for normal function of thyroid and also that in active hyperplasia of the thyroid there is a reduction of the iodine content. Kendell, in 1914, isolated the active principle of the thyroid, thyroxin in crystalline form. Investigations with thyroxin produced evidence warranting Plummer's conclusion that thyroxin is a catalytic agent hastening the rate of formation of a quantum of potential energy available for transformation on excitation of the cells. Trousseau, in 1863, first described the effect of iodine on toxic goiter. This valuable information, gained through an error by giving iodine instead of digitalis, did not lead to general use. Kocher, in 1904, advocated the use of iodine in hyperthyroidism but soon abandoned its use, believing it to be contraindicated. Marine and Lenhart, in 1911, advocated its use in toxic cases but again iodine failed to be accepted by the profession generally. In 1923, Plummer reintroduced the use of iodine in the preparation of exophthalmic goiter patients for operation and through his efforts the use of iodine treatment in hyperthyroidism was popularized.

The determination of the basal metabolic rate has added much in the diagnosis of hyperthyroidism. By means of the basal metabolism many patients have been found to be in a state of hyperthyroidism which otherwise would have gone unrecognized. According to Pemberton, the three greatest advances in the diagnosis of exophthalmic goiter since the time of Parry, Graves and Basedow are the determination of the basal metabolic rate, knowledge gained from Plummer's classification, and the effect of iodine.

Since the earliest recognition that the symptoms of exophthalmic goiter were associated with activity of the thyroid gland, the most successful method of combating the disease was by operation to reduce the function of the gland. Before 1850, operation

upon the thyroid had been performed on seventy cases with no report of mortality. Billroth, in 1869, had operated on twenty cases with forty percent mortality. Kocher performed his first thyroid operation in 1872, and at the time of his death, in 1917, had performed approximately 5000 operations for goiter. To these European surgeons and our own American pioneers in goiter surgery, like Halstead, Mayo, McGuire, Crile, Lahey, Pemberton and others, full credit must be given. However, for many years the advances made were slow and did not equal the progress made in other branches of general surgery.

Removal of the simple nodular goiter for the most part met with success dependent upon good technic and asepsis. However, conditions were different in toxic goiters. Experience early indicated that there were other problems besides asepsis and technical ability. The operative mortality was high, the cause of death in such cases was not understood and shrouded in mystery. Few surgeons were willing to undertake the operation. The hazards of operation on an adenomatous goiter with hyperthyroidism were dependent upon the presence of visceral degeneration. To offset this danger, early diagnosis, and early operation was practiced, whereas, the institution of early operation in exophthalmic goiter would only partially solve the problem.

Formerly the most baffling and discouraging problem in the treatment of exophthalmic goiter was the frequent occurrence of post-operative thyroid crises. Within a few hours after the goiter had been successfully removed, an acute explosive reaction would follow, with extreme tachycardia, high fever, nausea and vomiting, restlessness, prostration and delirium, followed in twelve to forty-eight hours by death. Such disastrous complications lead to the substitution of minor surgical procedures preliminary to operation such as ligation of the superior and inferior thyroid arteries, X-ray, injection of drugs and hot water into the gland. Such procedures were helpful and no doubt saved many lives, but, in spite of these improvements, there still remained many disadvantages and failures in this method of treatment.

First, there was no satisfactory treatment for the acutely sick patient bordering on a crisis. Experience had taught that operation was definitely contraindicated in such cases. Treatment remained symptomatic.

Second, the method did not completely eliminate post-operative reactions. Crises and death occasionally followed a minor operation, such as ligation or injection.

Third, since there was no absolute criteria of the patient's condition, the surgeon, to avoid hidden pit falls and unseen hazards, wisely judged a large per cent of all cases as poor risks and operated in multiple stages in a large number of cases which might easily have undergone a primary thyroidectomy. This resulted in a tremendous economic waste. It was amid these conditions, in 1913, that Plummer first established the value of the administration of iodine (compound solution of iodine) to patients with exophthalmic goiter who were under preparation for operation. This ushered in a new era in the treatment of this disease. Administration of iodine controls the spontaneous crisis of the disease and thereby has greatly reduced the medical mortality. Its effect is temporary relief not curative, for experience indicates that prolonged administration of iodine offers little hope of affecting permanent cure. By far the greatest value derived from this form of treatment has come from its employment as a measure of preparation for operation.

C. H. and C. W. Mayo, in reviewing 37,000 cases of goiter at Mayo Clinic, found that the hospital mortality in exophthalmic goiter had been reduced one fourth of what it had been before the use of iodine. Impressive as this may be, it does not tell the whole story, namely, the increase in operability which results from the use of iodine; likewise, the very marked decrease in medical deaths due to acute crisis. Following the administration of iodine in adenomatous goiter with hyperthyroidism, the mortality is slightly lower but the decrease is not so marked. They advise, as a matter of expediency and safety, the administration of iodine in such cases, to avoid the possibility of a fatal accident consequent to an erroneous preoperative clinical diagnosis, which consists in mistaking exophthalmic goiter, with an incidental adenoma of the thyroid gland, for adenomatous goiter with hyperthyroidism.

The care of diabetic patients with hyperthyroidism has been studied by Fitz, Wilder, Joslin and Lahey, who have demonstrated that the need for insulin is greatly increased when the patient is on the verge of a crisis. Wilder has shown that as the exophthalmic patient improves as a result of iodine,

the carbohydrate tolerance increases with resultant decrease in the requirement of insulin.

Since the institution of iodine therapy, not only has the patient been helped medically, but the need for preliminary and other surgical procedures has been greatly diminished at a very great economic saving. By the general improvement of the patient's preoperative condition and elimination of the long feared and dangerous complications, it may be said that treatment by iodine has placed surgery of exophthalmic goiter on a sound basis, similar to that of other branches of general surgery.

In conclusion, when we consider the advances made during the past half century in our knowledge of the chemistry, physiology and pathology and its practical application to treatment, we may feel proud, but there are still problems to be solved, new fields to explore. We realize that we have no definite knowledge of the cause of exophthalmic goiter, how it is stimulated to activity, or of the relationship and inter-relationship between the thyroid and the other endocrine glands.

REFERENCES

- Pemberton, J. de J.: The Charles H. Mayo Lectureship in Surgery. Northwestern University Bulletin, The Medical School, Vol. XXXVI, No. 24, February, 1936.
- Mayo, C. H.: Goiter and the Changes in Its Treatment. Proceedings of Inter-State Post Graduate Medical Assembly of North America, October, 1935.
- Mayo, C. H.: Progress in Knowledge and Treatment of Goiter. Journal International de Chirurgie, Extrait Tome 1, Numero 2, 1936.
- Mayo, C. H. and C. W.: Pre-Iodine and Post-Iodine Days. A Review of 37,222 Cases of Goiter at Mayo Clinic. Coll. Papers Mayo Clinic and Mayo Foundation, Vol. XXVII, 1935, W. B. Saunders Company.
- Lahey, Frank H.: Some of the Newer Developments in Hyperthyroidism and Hyperparathyroidism. Minnesota Medicine 18: 761, December, 1935.
- Haines, S. F.: Iodine in Treatment of Exophthalmic Goiter. The Wisconsin Med. Journal 33: 592, August, 1934.
- Boothby, W. M.: Disease of the Thyroid Gland: An Interpretative Review of Progress Towards Solution of the Problem. Archives of Internal Medicine 56: 136, July, 1935.
- Crile, G. W.: The Thyroid Gland; Clinics of George W. Crile and Associates, Second Edition, W. B. Saunders Company, 1922.
- Crotti, Andre: Thyroid and Thymus, Third Edition, Lea & Febiger, 1938.
- Means, J. H.: Thyroid and Its Diseases, J. B. Lippincott Company, 1937.
- Lahey, Frank H.: Surgical Clinics of North America, December, 1936.



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INFLUENZA AND PNEUMONIA

Influenza is caused by a filterable virus. It produced widespread havoc throughout the world several times in the middle ages, also definitely in 1847, 1889-90 and in 1918. In times when no epidemic is in progress many cases of grippe occur which are indistinguishable from those seen in an epidemic and are apparently examples of the same disease. The disease is spread from person to person by contact as in the case of the common cold and the same method may be used to prevent such spread. As the patient is usually much sicker than the person with a "cold" it is ordinarily easier to keep him from spreading his disease by keeping him isolated, but in the early stages before the condition is recognized he is very likely to infect others.

The treatment of an attack of influenza is much like that of a "cold." Fluids should be taken in large quantities, as in any infectious disease, and of the fluids that are appropriate water and fruit juices stand first. Medication should be for the relief of symptoms. As far as checking the spread of influenza is concerned the patent helplessness that was evident in 1918 may, we hope, be remedied before the next pandemic appears, for at the present time

experimental studies are being carried out in various parts of the world that give rise to the hope that in time some type of truly preventive inoculation may be devised which can be used on a large scale to raise the general resistance of the population as is done in the case of vaccination against small pox.

The condition which is most dreaded as a complication of both colds and influenza is pneumonia. Lobar pneumonia is a medical emergency. The researches of the past quarter of a century have resulted in the preparation of sera which if used promptly and in sufficient quantity may save the life of a pneumonic patient who otherwise would die. As most lobar pneumonia is caused by the pneumococcus and as many different types of this organism exist it is necessary as quickly as possible by tests of the expectorations and of the blood to determine the type of pneumococcus found and its presence in or absence from the blood stream. A large proportion of the severe pneumonia which occurs is caused by pneumococci of types against which efficient sera are available, and the sooner such sera are applied in adequate quantities the greater the likelihood of recovery. In many instances the early use of the proper serum gives results that are truly spectacular.

Besides serum treatment there are many other measures which help the patient in his struggle against his infection. First and most important is good, skillful, trained nursing. The value of this factor may seem obvious but it is unquestionably a fact that many preventable deaths from pneumonia occur as a result of the well meant but bungling attentions of amateur nurses. Second is the use of oxygen. This, in many grave cases of pneumonia is life saving.

While for years pneumonia will probably continue to be one of the commonest causes of death the measures just described, especially the prompt and adequate use of serum, will every year reduce its ravages. By a proper awareness on the part of the public as to the nature of this disease, its relation to colds and influenza, and the main methods that are available for the prevention and cure of these conditions, not only can many more afflicted individuals be saved year after year, but also there will be a greater public support for study and research in this field and eventually one of the greatest health hazards of modern life may be in great part overcome.

PROVIDENCE MEDICAL ASSOCIATION

Minutes of the October Meeting

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Alex M. Burgess, on Monday, October 10, 1938, at 8:40 P. M.

The minutes of the last meeting were read and approved.

Mr. James P. Adams, vice president of Brown University, spoke briefly regarding the urgent needs of the Providence Community Fund in its annual drive.

The Secretary reported for the Standing Committee that the applications of the following for membership had been approved by the Committee:

Carmine T. Angelone
Clarence E. Bird
Samuel D. Clark
Donald L. DeNyse
William H. Foley
Richard J. Kraemer
Thomas L. O'Connell
Paul J. Rozzero
Bernard I. Sherman
William P. Shields
Edmund J. Sydlowski
Charles Zurawski

On motion of Dr. Mowry these men were elected to membership.

The Secretary reported for the Standing Committee that it had given its approval to the following proposals or projects:

1. The appointment of a Publicity Committee to handle press and radio news of the Association.
2. The appointment of a Publication Committee to consider the feasibility and advisability of a monthly bulletin to be published by the Association, and to deal principally with matters of economic and social significance.
3. The appointment of a Legislative Committee to work in close connection with the Legislative Committee of the Rhode Island Medical Society.
4. The sending out of a personal information questionnaire by the Executive Secretary for the purpose of compiling a complete office record for the Association.

The recommendations were approved by the members present.

Dr. Henry S. Joyce reported for the Committee on Group Hospitalization. This report was accepted and placed on file.

Dr. Eske Windsberg reported for the Committee in charge of the A. M. A. Survey of the Need and Supply of Medical Care. The report was accepted.

In the absence of Dr. Edward McLoughlin the Secretary read a report of the Committee on Public Relations in which the committee requested an interpretation by the Standing Committee of the scope of its duties and suggested the appointment of a Publicity Committee to handle press and radio news matters of the Association. The report was accepted and placed on file.

Dr. James Fagan reported for the Committee on the Medical Care of Those on Temporary Relief, and stated that the problem before the committee had been settled by the city authorities on their own initiative and in accordance with their own opinions as to the best solution. It was voted to accept the report and to discharge the committee.

The President announced the appointment of the following committees:

Obituaries:

Of Dr. B. Frank Gray

Dr. G. S. Mathews and Dr. W. S. Streker

Of Dr. W. H. Higgins

Dr. J. A. Gilbert and Dr. Carl R. Gross

Of Dr. J. F. McCusker

Dr. J. E. Donley and Dr. J. P. Cooney

Of Dr. C. W. Skelton

Dr. Adolph R. V. Fenwick and Dr. George E. Teehan (By invitation)

Of Dr. D. S. Latham

Dr. A. T. Jones and Dr. P. Williams

Of Dr. Van Lee Fitzgerald

Dr. H. Partridge and Dr. G. Shattuck

Committee on Legislation:

Dr. J. Merrill Gibson, Chairman; Dr. William A. Mahoney; Dr. Milton Goldberger; Dr. Ralph DiLeone, and Dr. Roland Hammond.

Committee on Publicity:

Dr. Russell S. Bray, Chairman; Dr. Guy W. Wells, and Dr. Herman A. Lawson.

Committee on Publications:

Dr. Eric Stone, Chairman; Dr. John Langdon, and Dr. Daniel V. Troppoli.

The President informed the members present that the executive secretary, Mr. Farrell, has visited medical society offices in Syracuse, Rochester, Buffalo, Toledo, Cleveland, and Detroit during the summer and had compiled a detailed report of his study of their activities which would be presented at a subsequent meeting of the Association. In the meantime the report would be available at the exec-

utive office in the Medical Library to anyone interested.

The first scientific paper of the evening was presented by Dr. Charles A. McDonald, and was entitled "Brain Tumor Without Increased Intracranial Pressure." The second paper was presented by Dr. Robert J. Williams, and was entitled "Increased Intracranial Pressure Without Tumor."

Following the presentation of these papers, Milton Korb, a research associate, gave a very complete and interesting presentation of his subject entitled "Formation of the Circle of Willis and Its Aneurysms."

The papers were discussed by Dr. John E. Donley.

The meeting was adjourned at 10:45 P. M.

Attendance 107.

Collation was served.

Respectfully submitted

HERMAN A. LAWSON, M.D., *Secretary*

Minutes of the November Meeting

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Alex M. Burgess, on Monday, November 7, 1938, at 8:45 P. M.

The minutes of the last meeting were read and approved.

Mr. Joseph Breen, secretary to the State Director of Labor, spoke briefly regarding the medical aspects of labor legislation.

The Secretary reported for the Standing Committee that the applications of the following for membership had been approved by the Committee:

Valeria R. Juracsek

Jack Savran

On the motion of Dr. Mowry these applicants were elected to membership.

The Secretary reported for the Standing Committee that it had given its approval to the following proposals:

1. That the Association recommend to the Community Fund, Inc., that the last retiring President of the Providence Medical Association be appointed each year as the head of the Health Division of the Community Fund for the succeeding year for its annual drive.

2. That a large and representative committee be appointed by the President to aid in the Community Fund Drive.

3. That the Publicity Committee be authorized to have the Providence Journal Company appoint one of its authorized representatives to aid the Publicity Committee in matters pertaining to news information of medical nature emanating from this Association.

4. That the posting of notice of all regular meetings of the Association be permitted in the daily press.

5. That a membership committee be appointed by the President, to consist of five members, for the purpose of studying the rules and regulations concerning membership in the Association for the purpose of possible revisions.

6. That the executive secretary be authorized to send notices of the Association's radio programs to schools and clubs, and the expense incident thereto be borne by the Association.

7. That the President, at his discretion, may omit the reading of obituaries and also the personal data and qualifications of new applicants, at the regular meetings of the Association, but that at each meeting the members present shall be notified that copies of obituaries, and also the complete applications of new members, are available to any member interested through the Secretary.

On the motion of Dr. Langdon these recommendations were approved.

In the absence of Dr. Bray the Secretary read a report of the Publicity Committee which was approved and placed on file.

The President announced that he would omit the reading of obituaries unless any member wished such readings, and it was further announced that copies of the obituaries of Dr. D. Frank Gray, Dr. William H. Higgins, and Dr. Creighton W. Skelton, were on file with the Secretary.

Mr. Farrell, the executive secretary, spoke briefly regarding his visit to medical society offices in New York state, Ohio, and Michigan, and outlined some of the work being done by those groups.

The President announced the appointment of a Membership Committee as follows: Dr. Frank B. Littlefield, Chairman; Dr. George B. Waterman, Dr. Banice Feinberg, Dr. William P. Davis, and Dr. Herman A. Lawson.

There being no further business, the President turned the program over to Dr. Herman C. Pitts, who acted as Chairman of a one hour panel discussion on the topic "Co-operation in the Cancer Problem."

Dr. B. Earle Clark opened the discussion with a paper on the role of the pathologist, and then Dr. Peter P. Chase discussed the role of the surgeon in the problem. The role of the gynecologist was presented by Dr. George W. Waterman, and that of the radiologist by Dr. Isaac Gerber.

The papers were discussed from the floor by Dr. Charles N. Raymond, D. Lucius C. Kingman, Dr. John Langdon, D. Anthony Corvese, and Dr. John Dziob.

The meeting was adjourned at 10:45 P. M. Attendance was 130. Collation was served.

Respectfully submitted,

HERMAN A. LAWSON, M.D., *Secretary*

MEMORIAL HOSPITAL

INTERNE ALUMNI CLINIC DAY

Wednesday, November 2, 1938, the Memorial Hospital held its Annual Interne Alumni Clinic Day with an attendance of two hundred physicians in the morning and more than three hundred at the afternoon session. At the morning session a surgical operative clinic, under the direction of Dr. Charles H. Holt, Chief of the Surgical Division, was given by Drs. William P. Davis, G. Raymond Fox and Henry J. Hanley. Under the direction of Dr. Francis B. Sargent, Chief of the Ear, Nose and Throat Division, a radical mastoid operation was done by Dr. Nathan A. Bolotow. A urological operative clinic, under the direction of Dr. J. Edwards Kenney, Chief of the division, was given by Drs. Stanley Sprague, Mihran A. Chapian and Charles L. Farrell.

The following medical clinics were given under the direction of Dr. John F. Kenney, Chief of the Medical Division:—"Presentation of Cases of Gastric Hemorrhage," by Dr. Jacob Greenstein; "Discussion of Medical Phases of Gastric Hemorrhage," by Dr. Kenney; "Discussion of Surgical Phases of Gastric Hemorrhage," by Dr. Henry B. Moor.

At the ear, nose and throat clinic, Dr. Francis B. Sargent, Chief of the division, presented a "Discussion of Acute and Chronic Middle Ear Infections." The obstetrical clinic, under the direction of Dr. John G. Walsh, Chief of the division, consisted of a "Round Table Discussion: Management of the Complications of the First Stage of Labor," by Drs. Walsh, George W. Waterman and Albert

L. Potter. D. Raymond F. Hacking, Chief of the Eye Division, showed "Moving Pictures of Eye Operations." Dr. William B. Cohen showed a "New Treatment for Birth Marks, with a Case Presentation." At the neurological clinic, Dr. John E. Donley presented "Injuries to the Head and Their Treatment."

The orthopedic and pediatric clinic, under the direction of Dr. Roland Hammond, Chief of the Orthopedic Division, consisted of a "Short Symposium on Osteomyelitis in Children," presented by Drs. Hammond, Herbert E. Harris and Reuben C. Bates. The pediatric clinic, under the direction of Dr. Earl F. Kelly, Chief of the division, was a "Discussion of Appendicitis in Children," presented by Drs. Kelly, Arthur T. Jones, Consultant, and Eliot A. Shaw, Assistant Surgeon.

The surgical clinic, under the direction of Dr. Frederic V. Hussey, was a "Symposium on the Handling of Gall Bladder Disease at the Memorial Hospital," presented by Dr. Hussey, Chief of the Surgical Division, Dr. John F. Kenney, Chief of the Medical Division, Dr. Meyer Saklad, Chief of the Anesthesia Division, and Dr. Emanuel W. Benjamin, Roentgenologist.

From 1:30 to 2:30 P. M. a buffet luncheon was served at the hospital to all those present.

At the afternoon session, Dr. John F. Kenney presided. The program follows:

"OBSTRUCTIVE UROPATHY," Dr. Alexander Randall, Medical Professor of Urology, University of Pennsylvania.

"CORONARY INSUFFICIENCY," Dr. William D. Stroud, Professor of Cardiology, University of Pennsylvania, Graduate School of Medicine.

"ENDOCRINE THERAPY IN THE TREATMENT OF ALLERGIC DISORDERS," Dr. Harry Bond Wilmer, Assistant Professor of Clinical Immunology, University of Pennsylvania, Graduate School of Medicine.

"ACUTE HEPATIC CELLULAR DISEASE," Dr. George Morris Piersol, Vice Dean for Medicine, University of Pennsylvania, Graduate School of Medicine.

The regular staff dinner was held in the evening at the Squantum Club.

A regular clinical pathological conference was held at the hospital on November 8. A case of appendiceal abscess on stump that had been left in at previous operation was reported by Dr. William P. Davis and discussed by Drs. Greenstein and Benjamin. A case of perforated gastric ulcer was

presented by Dr. John F. Kenney. An outline of the surgical treatment to be followed was brought out by Dr. Frederic V. Hussey and Dr. Arthur T. Jones. A case of bronchiogenic carcinoma with specimen and micro-photographs was presented by the medical service and discussed by Drs. Eliot A. Shaw, William P. Davis, Frederic V. Hussey, Jacob Greenstein, Emanuel W. Benjamin, T. Krolicki, Harry M. Kechijian and John F. Kenney.

A valuable addition to the vascular service is the vasculator which has recently been presented to the hospital.

The following doctors have completed their internships at the hospital this year:

Dr. John F. Chace, in June, at present interning at the State Sanitarium at Wallum Lake.

Dr. Durtad R. Baronian, in June, at present interning at the Boston City Hospital.

Dr. James P. Healey, in June, now practicing in Central Falls.

Dr. Edward Foster, in August, now practicing in Pawtucket.

Dr. Albert D. Spicer, in August, now attending Harvard Dental School.

Dr. Joseph B. Crowley completed a year's internship in August since which time he has married and at present is living in Franklin, Massachusetts.

Dr. Lawrence A. Sensenian, who interned at this hospital in 1937, attended the Harding Sanatorium at Worthington, Ohio, and is now practicing at 160 Chapel Street, Saylesville.

RECENT BIRTHS

A son to Dr. and Mrs. Edwin B. Gammell.

A son to Dr. and Mrs. John H. Gordon.

A son to Dr. and Mrs. Joseph H. Doll.

RECENT MARRIAGES

Dr. Frederic V. Hussey and Mrs. Genevieve M. Roblee.

Dr. J. B. Curtis and Miss Elizabeth Tompkins, R.N.

Dr. Earl J. Mara and Miss Ruth Small, R.N.

Dr. Thomas J. Dolan and Miss Bertha Anderson, R.N.

Dr. Henry J. Hanley and Miss Margaret Egan.

Rhode Island Hospital

October 1st, Dr. William W. Teahan began a six months' internship at the Lying-In Hospital.

Dr. Albert A. Stitt, of Boston, Mass., became resident night superintendent on October 1st. Dr. Stitt is a graduate of Tufts College and the Medical School of Lausanne University. He interned at the Long Island Hospital, Boston, for one year and was Resident in the same institution for one year.

October 15th, Dr. Edward Lincoln Smith, II, of Montpelier, Vermont, began a two years' internship. Dr. Smith is a graduate of Yale University and Harvard Medical School. Previous to coming to the R. I. Hospital, Dr. Smith interned for one month at Providence Lying-In Hospital.

October 1st, Dr. D. William J. Bell began a six months' internship at the Charles V. Chapin Hospital. Dr. Bell, whose home is in Providence, interned at the R. I. H. for two years before going to the Chapin. He is a graduate of Brown University and McGill Medical School.

Dr. Eugene Field of Providence, who was summer intern in 1934, substituted for Dr. Boyd in the X-ray Department during the latter's absence for six weeks. Dr. Field graduated from Brown University in 1931 and Columbia Medical School in 1935. He interned at the New Haven Hospital in surgery in 1935 to 1936, later was X-ray resident at the Beth Israel Hospital in Boston from June 1936 to September 1937. He had a fellowship in gastroenterology at the Johns Hopkins Hospital and Medical School for the academic year 1937-1938 and was awarded the full Signa XI at Johns Hopkins University in research in 1938. Dr. Field is now for an indefinite period at Mt. Sinai Hospital, New York, continuing work in gastroenterology. He anticipates opening an office in Providence.

On November 1st, Dr. Bryon L. Sweet completed his two years internship. Accompanied by his wife, he left for his home in Tarrytown, N. Y., where he intends to enter practice. Dr. Sweet is a graduate of Wesleyan College and Yale University Medical School.

On November 14th, Dr. George E. Kirk of 56 High Service Avenue, North Providence, began a two years internship. Dr. Kirk is a graduate of Brown University and McGill Medical School.

RECENT BOOKS

PRACTICE OF MEDICINE. By Jonathan C. Meakins, M.D., LL.D., Professor of Medicine and Director of the Department of Medicine, McGill University. Second Edition, pp. 1413, with 521 illustrations, 43 in color. Cloth, \$12.50, The C. V. Mosby Company, St. Louis, 1938.

In the preface of this large volume the author states that he has written for the student and practitioner and has endeavored to stress symptomatology. This purpose has been faithfully followed and the fundamental features of an exhaustive list of diseases is lucidly presented.

A brief idea of the scope of the book can be obtained from a list of the chapter headings: "An Introduction to the Practice of Medicine," "Diseases of the Nasopharynx and Mouth," "Specific Infections of the Nasopharynx and Mouth," "Diseases of the Larynx and Bronchial System," "Diseases of the Lungs," "Diseases of the Circulatory System," "Diseases of the Serous Membranes, Mediastinum and Diaphragm," "Diseases of the Hematopoietic System," "Diseases of the Gastrointestinal Tract," "Diseases of the Liver and Bile Passages," "Diseases of Nutrition," "Diseases of Metabolism," "Diseases of the Ductless Glands," "Diseases of the Nervous System," "Diseases of the Locomotor System," "Diseases of the Urinary System," "Infectious Diseases Conveyed by Parenteral Inoculation," "Diseases due to Allergy," "Diseases due to Abnormal Environments," "Diseases due to Chemicals and Drugs." At the end of each chapter is a short list of selected references of the subjects discussed.

In the introductory chapter the author presents an excellent general discussion of diagnosis, prognosis and treatment. He urges critical objective observation in all our work and points out that "We too often flatter ourselves that our remedies have wrought miraculous cures which, however, we cannot repeat because we have not given due credit to the recuperative capacity of biological processes which often struggle in vain against our interference."

The outstanding feature of the book is the large number of excellent illustrations which are notable because of the clarity with which they emphasize the point under discussion. Included also are many striking color plates.

The chief criticism that might be offered is the undue brevity and concomitant omission of important detail evident in some of the discussions of treatment. Thus, in a fairly long discussion of pneumonia, less than one page is devoted to the theory and practice of serum therapy. In the chapter on "Diseases of the Hematopoietic System" are several excellent color plates of the sternal marrow stained with Giemsa's stain. Though these are undoubtedly of considerable value, it might have been more helpful to use color plates of blood smears stained by Wright's method.

The printing is well done, and the type is large and easily read. The book can be strongly recommended as fulfilling the purposes outlined by the author of writing a text-book for student and practitioner.

FRANK B. CUTTS, M.D.

ANUS, RECTUM, SIGMOID, COLON, DIAGNOSIS AND TREATMENT. By Harry Ellicott Bacon, B.S., M.D., F.A.C.S., F.A.P.S. pp. 855 with 487 illustrations, Cloth, \$8.50, J. B. Lippincott Company, Philadelphia, 1938.

The author has presented an orderly text, most comprehensive in scope, of his subject. By way of preface anatomy, examination, and laboratory tests are reviewed, and anesthesia discussed. The many pathological processes afflicting the anus and rectum are considered with regard to diagnosis, and both medical and surgical management. Perhaps the outstanding feature of this work is the presentation of the surgical treatment of carcinoma of the rectum and sigmoid colon. The many operative techniques are presented in sufficient detail with adequate illustration. The various

procedures are well evaluated by exhaustive statistical studies. In the manner in which this material is offered the book far surpasses many surgical textbooks.

This volume is recommended as an authoritative reference source to any physician interested in proctologic and colon surgery. For the specialist in this field the extensive bibliography alone should make it a necessary addition to his library.

LAWRENCE T. MINISH, JR., M.D.

FEMININE HYGIENE IN MARRIAGE. By A. F. Niemoeller, A.B., M.A., B.S. pp. 155 with 6 illustrations. Cloth, \$2.00, Harvest House, New York, 1938.

MICROBIOLOGY AND PUBLIC HEALTH. By William Barnard Sharp, S.M., M.D., Ph.D. pp. 492 with illustrations, Cloth, \$4.50, The C. V. Mosby Company, St. Louis, 1938.

YOU CAN SLEEP WELL. By Edmund Jacobson, M.D. pp. 269, Cloth, \$2.00, Whittlesey House, McGraw-Hill Book Company, Inc., New York, 1938.

OUTLINE OF ROENTGEN DIAGNOSIS. By Leo G. Rigler, B.S., M.B., M.D. An Orientation in the Basic Principles of Diagnosis by the Roentgen Method. pp. 212, Student Edition, \$3.00. Complete Edition with 254 illustrations and atlas, \$6.50, J. B. Lippincott Company, Washington Square, Philadelphia, 1938.

SICKNESS INSURANCE IN EUROPE. By J. G. Crownhart, Secretary, State Medical Society of Wisconsin. pp. 134, Cloth, \$1.00, J. G. Crownhart, Madison, Wisconsin, 1938.

SYNOPSIS OF CLINICAL LABORATORY METHODS. By W. E. Bray, B.A., M.D. Second Edition, pp. 408 with 51 text illustrations and 17 color plates, Cloth, \$4.50, The C. V. Mosby Company, St. Louis, 1938.

THE 1938 YEAR BOOK OF GENERAL MEDICINE. Edited by George F. Dick, M.D., J. Burns Amberson, Jr., M.D., George R. Minot, M.D., S.D., F.R.C.P., William B. Castle, M.D., A.M., William D. Stroud, M.D., and George B. Eusterman, M.D. pp. 840. with illustrations and a color plate, Cloth, \$3.00, postpaid, The Year Book Publishers, Inc., Chicago, 1938.

HOW TO CONQUER CONSTIPATION. By J. F. Montague, M.D., Editor-in-chief of Health Digest. pp. 244, Cloth, \$1.50, J. B. Lippincott Company, Philadelphia, 1938.

DOCTOR BRADLEY REMEMBERS. A Novel by Francis Brett Young, author of "They Seek a Country." pp. 522, Cloth, \$2.75, Reynal & Hitchcock, New York, 1938.



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Ehrlich, P., and Hata, S.: Die Experimentelle Chemotherapie der Spirochäten. J. Springer, Berlin, 1910.

Voegtlin, C., and Smith, H. W.: Quantitative Studies in Chemotherapy: Trypanocidal Action of Arsenic Compounds. J. Pharmacol. & Exper. Therap. 15:475, 1920.

Voegtlin, C., and Smith, H. W.: Quantitative Studies in Chemotherapy: Oxidation of Arsenamine. J. Pharmacol. & Exper. Therap. 16:195, 1920.

Dale, H. H.: Chemotherapy, Physiol. Rev. 3:359, (July) 1923.

Voegtlin, C.; Dyer, H. A., and Leonard, C. S.: Mechanism of Action of Arsenic upon Protoplasm, Public Health Reports, 38:1888 (Aug. 17) 1923.

Voegtlin, C., and Thompson, J. W.: Quantitative Studies in Chemotherapy: VI. Rate of Excretion of Arsenicals. A Factor Governing Toxicity and Parasitocidal Action. J. Pharmacol. & Exper. Therap. 20:85-105 (Sept.) 1923.

Falconer, E. H.; Epstein, N. N., and Wever, G. K.: Purpura Haemorrhagica Following The Administration of Neosphenamine. The reaction to Neosphenamine Compared with the Reaction to Mapharsen. Arch. Int. Med. 58:495 (Sept.) 1936.

Gruhlitz, O. M., et al.: Mapharsen in Mass Treatment of Syphilis in a Clinic for Venereal Diseases. Arch. Dermat. & Syph. 34:432 (Sept.) 1936.

Kulchar, G. V., and Barnett, C. W.: Mapharsen in the Treatment of Early Syphilis. Am. J. Syph. Gon. & Ven. Dis. 20:652 (Sept.) 1936.

Loveman, A. B.: Symposium on the Treatment of Early Syphilis. Kentucky Med. J. 34:46 (Feb.) 1936.

Mapharsen accepted for N. N. R. J. A. M. A. 106:214 (Jan. 18) 1936.

Fox, E. C.: Treatment of Early Syphilis. A Public Health Control Measure. Tex. State J. Med. 33:359 (Sept.) 1937.

Jordan, J. W., and Traenkle, H. L.: Reactions to Mapharsen, With Special Reference to Its Use in Patients Who React to the Arspenamine. Arch. Dermat. & Syph. 36:1158 (December) 1937.

Marshall, J. W.: The Treatment of Syphilis with Mapharsen. Am. J. Syph. Gon. & Ven. Dis. 21:645 (Nov.) 1937.

Moore, J. E.: Treatment as a Factor in the Control of Syphilis. Ven. Dis. Inf. Suppl. No. 3, p. 84, 1937. (See Footnote p. 81).

Parsons, R. P.: An Estimate of Arsenoxide (Mapharsen) in the Treatment of Early Syphilis. U. S. Naval Med. Bull. 35:207 (April) 1937.

Peterson, S. C.: The Use of Mapharsen in the Treatment of Syphilis. Canad. M. A. J. 36:172 (Feb.) 1937.

A Parke-Davis Contribution to the Control of Syphilis

MAPHARSEN

Voegtlin, C.: The Pharmacology of Arspenamine (Salvarsan) and Related Arsenicals. Physiol. Rev. 5:53, 1925.

Kolmer, J. A.: Chemotherapy with Special Reference to Treatment of Syphilis. W. B. Saunders Co., Philadelphia, 1926, p. 326.

Rosenthal, S. M., and Voegtlin, C.: Biological and Chemical Studies of the Relationship between Arsenic and Crystalline Glutathione. J. Pharmacol. & Exper. Therap. 39:347 (July) 1930.

Voegtlin, C., Rosenthal, S. M., and Johnson, J. M.: Influence of Arsenicals and Crystalline Glutathione on Oxygen Consumption of Tissues. Pub. Health Rep. 46:339, 1931.

Rosenthal, S. M.: Action of Arsenic upon Fixed Subhydryl Groups of Proteins. Pub. Health Rep. 47:241, 1932.

Rosenthal, S. M.: Formation of Arsenoxide from the Arspenamines in Living Animal in Test-Tube Oxidations. Pub. Health Rep. 47:933, 1932.

Tatum, A. L., and Cooper, G. A.: Meta-Amino-Para-Hydroxy-Phenyl-Arsene-Oxide as an Antisiphilitic Agent. Science 75:541, 1932.

Rosenthal, S. M., and Prober, T. F.: Relation of Arsenoxide Content to Toxicity of Fresh and Old Samples of Arspenamine. New Chemical Tests upon Arspenamines. Pub. Health Rep. 48:969, 1933.

Gruhlitz, O. M.: Arsenoxide (Meta-Amino-Para-Hydroxy-Phenyl-Arsene-Oxide) in Experimental Animals. Published in Abstract Form Only, Arch. Path. 18:362, 1934.

Schamberg, J. F.; Kolmer, J. A., and Brown, H.: Arsenoxide in Relation to Toxicity and Therapeutic Activity of Arspenamine and Neosphenamine. Am. J. Syph. & Neurol. 18:37, 1934.

Tatum, A. L., and Cooper, G. A.: An Experimental Study of Mapharsen as an Antisiphilitic Agent. J. Pharmacol. & Exper. Therap. 50:198, 1934.

Bancroft, J. A.: Vincent's Infection and a New Therapeutic Agent for Its Treatment—Mapharsen. Wis. Dental Rev. 11:12 (Sept.) 1935.

Foerster, O. H., et al.: Mapharsen in the Treatment of Syphilis. Preliminary Report. Arch. Dermat. & Syph. 32:868, 1935.

Gruhlitz, O. M.: Mapharsen ("Arsenoxide") in the Therapy of Experimental Syphilis and Trypanosomiasis. Arch. Dermat. & Syph. 32:848, 1935.

Pedlow, J. T., and Reiner, L.: On the Mechanism of Chemotherapeutic Action. XII. Comparison of the Binding of Chemotherapeutic Agents by Normal and Resistant Trypanosomes. J. Pharmacol. & Exper. Therap. 55:179, 1935.

Pfeiffer, C. C., and Tatum, A. L.: A New Experimental Approach to the Study of the Role of the Reticulo-Endothelial System in the Cure of Trypanosomiasis. J. Pharmacol. & Exper. Therap. 53:358, 1935.

Raiziss, G. W., and Severac, M.: Comparative Chemotherapeutic Studies of "Arsenoxide" (3-Amino-4-Hydroxy-Phenyl-Arsene-Oxide) and Neosphenamine. Am. J. Syph. & Neurol. 19:412, 1935.

Tatum, A. L.: Some Studies on Specific Arsenical Chemotherapy. Proc. Inst. Med., Chicago 10:341, 1935.

Wright, H. N., et al.: Some Pharmacological Studies on Arsenoxide (Mapharsen). J. Pharmacol. & Exper. Therap. 54:164 (June) 1935.

Cheever, A. W.: Progress in Treatment and Diagnosis of Syphilis. 1935. New England J. Med. 215:242 (Aug. 6) 1936.

Cole, H. N.: The Use of Antisiphilitic Remedies. J. A. M. A. 107:2123 (Dec. 26) 1936.

Duehr, P. A., et al.: Mapharsen, a New Therapeutic Agent for Vincent's Infection. J. Am. Dent. A. 23:652 (April) 1936.

Editorial Comment: Mapharsen in the Treatment of Syphilis. Brit. Med. J. 1:269 (Feb. 8) 1936.

Editorial: Mapharsen in the Treatment of Syphilis. Brit. Med. J. 2:1038 (Nov. 21) 1936.

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Miller, H. E.; Epstein, N. N., and Simpson, R. G.: Mapharsen: Its Use in the Treatment of Syphilis. Calif. & West. Med. 45:221 (Oct.) 1936.

Moore, J. E., et al.: The Response of Quantitatively Titrated Wassermann Test in Early Syphilis to Treatment with Five Different Arsenical Drugs. Am. J. Syph. Gon. & Ven. Dis. 20:500 (Sept.) 1936.

Netherton, E. W.: Management of Syphilis in Elderly Persons. Cleveland Clin. Quar. 3:205 (July) 1936.

Padgett, P., and Moore, J. E.: Syphilis. A Review of the Recent Literature. Arch. Int. Med. 58:920 (November) 1936.

Queries: Mapharsen in Syphilis. J. A. M. A. 107:232 (July 18) 1936.

Queries: Mapharsen and Syphilis. J. A. M. A. 107:737 (Aug. 29) 1936.

Queries: Arspenamine Reactions. J. A. M. A. 107:896 (Sept. 12) 1936.

Queries: Treatment of Syphilis. J. A. M. A. 107:899 (Sept. 12) 1936.

Robinson, H. M.: Intravenous Testing in Postarsphenamine Dermatitis. So. Med. J. 29:411 (April) 1936.

Schech, A. G.: Treatment of Venous Spasm Resulting from Injection of Mapharsen or Arspenamine. Arch. Dermat. & Syph. 34:1031 (Dec.) 1936.

Sollmann, T.: A Manual of Pharmacology. W. B. Saunders Co. 1936, p. 960.

Sullivan, E. C.: The Doctor and Early Syphilis. New England J. Med. 215:336 (Aug. 20) 1936.

Thurmon, F. M.: Bismuth Ethyl Camphorate. New England J. Med. 215:315 (Aug. 20) 1936. (See Footnote, p. 316.)

Venereal Disease Control Programs of the State Departments of Health. Ven. Dis. Info. 17:177 (July) 1936.

Appel, B.: Mapharsen in the Treatment of Cardiovascular Syphilis. Preliminary Report. New England J. Med. 217:992 (Dec. 16) 1937.

Astrachan, G. D.: Mapharsen in Antisiphilitic Therapy. Am. J. Syph. Gon. & Ven. Dis. 21:81 (Jan.) 1937.

Balina, P. L., and Nossitou, F. M.: Algunos Casos Mas de Sífilis Tratados por Arspenamine. Revista Argentina de Dermatología, Vol. XXI, Part 4, 1937.

Bär, F.: Festigungsversuche mit einer Arseno-Stibo-Verbindung. (Std. 385 B). Zbl. Bakter. (Orig.) 140:209 (No. 3/8) 1937.

Cole, H. N., and Palmer, R. B.: Mapharsen in the Treatment of Syphilis. Arch. Dermat. & Syph. 36:361 (Sept.) 1937.

Fidanza, E. P.: Mapharsen in the Treatment of Syphilis: Results of One Year's Experience. Revista Argentina de Dermatología, Vol. XXI, Part 3, 1937.

Roth, G. B., and Creswell, G. W.: Chemobiological and Clinical Behavior of Arsenoxide (Mapharsen). Med. Ann. of District of Columbia 6:195 (July) 1937.

Schmidt, L. E., and Taylor, G. G.: The Treatment of Syphilis with Mapharsen. Am. J. Syph. Gon. & Ven. Dis. 21:402 (July) 1937.

Senefer, F. E.: Diagnosis and Treatment of Early Syphilis. J. Indiana State M. A. 30:4 (Jan.) 1937.

Stokes, J. H., and Beerman, H.: New Arspenamine Synthetics in the Treatment of Syphilis. Arch. Dermat. & Syph. 35:78 (Jan.) 1937.

Vergo, F.: Fixed Eruption Due to Arsenic. Arch. Dermat. & Syph. 35:307 (Feb.) 1937.

Wells, R. L.: The Present Status of Mapharsen in the Treatment of Syphilis. Med. Ann. of District of Columbia 6:205 (July) 1937.

Weider, L. M.; Foerster, O. H., and Foerster, H. R.: Mapharsen in the Treatment of Syphilis: Further Studies. Arch. Dermat. & Syph. 35:402 (March) 1937.

Wright, H. N.; Lundstrom, K. A., and Wright, D. G.: Distribution and Retention of Mapharsen. J. Pharmacol. & Exper. Therap. 60:123 (June) 1937.

Astrachan, G. D., and Wise, F.: Further Experiences with Mapharsen: Its Use in Latent Syphilis. Am. J. Syph. Gon. & Ven. Dis. 22:410 (July) 1938.

Bennett, A. E., and Lewis, M. D.: The Prevention and Treatment of Neurosyphilis by Combined Artificial Fever and Chemotherapy. With Report of Results in Seventy-two Cases of Asymptomatic and Clinical Neurosyphilis. Am. J. Syph. Gon. & Ven. Dis. 22:393 (Sept.) 1938.

Cady, L. D.: Recent Advances in the Chemotherapy of Neurosyphilis. Med. Record 147:257 (March) 16) 1938.

Chargin, L., and Leifer, W.: Mapharsen in Wassermann-fast Syphilis. Am. J. Syph. Gon. & Ven. Dis. 22:335 (April) 1938.

Cole, H. N.: Criteria Governing the Use of Antisiphilitic Drugs. Ven. Dis. Inf. 19:6 (Jan.) 1938.

Cooley, E. E.; Lieut. Col. Medical Corps: Notes On the Diagnosis and Treatment of Early Syphilis. The Army Medical Bulletin, No. 43, page 22 (January) 1938.

Eagle, H., and Mendelsohn, W.: On the Spirochetal Action of the Arsenoxides on Sparocheta Pallida in Vitro. Science, 87:194 (Feb. 25) 1938.

Farrell, J. I.: The Newer Physiology of the Prostate Gland. J. Urol. 39:171 (February) 1938.

Longley, B. J.; Kuhs, M. L., and Tatum, A. L.: Tolerance to Organic Arsenicals. J. Pharmacol. & Exper. Therap. 53:24 (May) 1938.

Moore, J. E.: The Arspenamines. Management of Syphilis in General Practice. U. S. Public Health Service, suppl. No. 6 to Venereal Disease Information, p. 24, 1938.

Morgan, E. A.: The Value of Mapharsen in the Treatment of Congenital Syphilis. Canad. M. A. J. 38:53 (January) 1938.

Nelson, P. M., and Tatum, A. L.: A Comparative Study of Various Agents in the Chemotherapy of Rat Trichomoniasis. J. Pharm. & Exper. Therap. 63:122 (June) 1938.

Paquette, J. P.: Stomatitis à Fusio-Spirilles. L'Union Médicale du Canada 67:357 (April) 1938.

Robertson, J. P.: Syphilis. Some Observations and Conclusions Drawn From the Administration of 120,600 Antisiphilitic Treatments to 5660 Patients. J. Med. Assoc. Alabama 7:372 (April) 1938.

Sisk, W. N., Assistant Surgeon with the Tennessee State Department of Health: A Short History of Mapharsen: With Report of Its Use in the Treatment of Two Cases of Syphilis. Hospital News, Vol. 5, No. 11, p. 5 (June 1) 1938.

Smith, C. R.: Treatment of Syphilis in Tuberculous Patients: Preliminary Report. Am. J. Syph. Gon. & Ven. Dis. 22:12 (January) 1938.

Yampolsky, J.: A Comparative Review of the Use of Antisiphilitic Drugs in the Treatment of Congenital Syphilis in Children. Southern Med. J., 31:406 (April) 1938.

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